

**California Agricultural
Teachers' Association
Curricular Code
2024-2025**

TABLE OF CONTENTS

	<u>Section</u>
General Rules	Introduction *
Introduction	
Rules of Conduct	
Fairs and Shows	
State Championship Events	
Curricular Code Rule Changes	
Agriculture Teachers and Coaches Code of Conduct for CDEs	
Agricultural Communications.....	A02
Agricultural Issues Forum	B14
Agricultural Mechanics	C02
Agricultural Mechanics Fair.....	D03*
Agricultural Pest Control.....	C01*
Agricultural Sales.....	B10*
Agricultural Welding	C14
Agriculture Experience Tracker (AET) Farm Record Book.....	C06
Agriscience Fair	A11
Agronomy.....	C03*
Best Informed Greenhand	A01*
California Water	D04
Citrus Judging.....	A02*
Cotton	C04
Creed Recitation.....	A03
Dairy Cattle Judging	C05
El Credo de la FFA.....	D05*
Extemporaneous Public Speaking.....	B02
Farm Business Management.....	A13
Farm Power & Machinery	A04
Floriculture.....	C07*
Food Science & Technology (Reinstated 2024/2025)	B14
Forestry	A05
Fruit Tree Judging.....	A06*
Fruit Tree Pruning	C08
Grapevine Judging.....	B03
Grapevine Pruning	C09
Impromptu Public Speaking.....	A14
Job Interview.....	C12
Light Horse Judging	C10
Livestock Judging	A07
Marketing.....	A08
Marketing Plan.....	C13
Meat Judging.....	B05
Milk Quality & Products.....	B01*
Natural Resources.....	B12*

CATA Curricular Activities Code

	<u>Section</u>
Nursery/Landscape	B06*
Parliamentary Procedure & Debate	A09*
Poultry Judging.....	A10
Prepared Public Speaking	B07*
Small Engines	B08*
Soil and Land Evaluation	B04
Vegetable Crop Judging	B09
Veterinary Science Judging	B11*

INTRODUCTION

Revised 6/2024

I. Introduction

This code contains rules and regulations governing the following FFA functions:

- FFA Activities
- Fairs and Shows
- State Championship Events and Event Awards/Procedures

The rules and regulations of this Code are to be considered as a part of the Bylaws of CATA and can therefore be changed only as outlined in the CATA Bylaws or as indicated in this code.

RULES OF CONDUCT

Revised 6/2024

I. Rules of Conduct at All Agricultural Education Events

- A. During FFA events and activities, the Agricultural Teacher of each school involved is ultimately responsible for the actions of their FFA members. Each school and district have rules that govern students at school related activities, and each FFA event has rules and guidelines within the Curricular Code to help govern the responsibilities of FFA members. FFA members and teachers shall be held responsible for those rules.
 - B. When any FFA member attends an FFA function, Agriculture Teachers shall follow their School District policies regarding supervision of students attending activities off campus.
 - C. Prior to participating in an FFA activity governed by these rules, the agriculture teacher will ensure that each FFA member has their school district permission and/or other forms, as required by their district. The permission and medical forms shall be in the possession of the district approved person providing supervision. Additional rules can be imposed for specific activities. It will be the responsibility of the advisor to bring such rules to the attention of the students and chaperones. If the activity requires a signed statement indicating intent to follow the prescribed rules, the signed statement shall be in the possession of the accompanying instructor or chaperone, if an instructor is not present, and must be available on request.
 - D. General Rules of Conduct apply to all FFA activities and are as follows:
 1. FFA members are expected to respect the authority and direction of all teachers and site representatives of all agricultural education events and activities.
 2. FFA members are expected to follow the FFA Code of Ethics and FFA Code of Conduct.
 3. FFA members are expected to be respectful of all individuals.
 4. The use of tobacco will not be permitted by FFA Members while wearing any item that identifies the person as an FFA member or while participating in any FFA activity.
 5. Drinking or possession of alcoholic beverages or drugs shall not be tolerated. Violation of this rule will cause immediate suspension from the activity and notification to school administration.
 6. Proper conduct is expected from FFA Members at all times. Proper conduct includes, but is not limited to, any communications, physical interactions, or behavior.
 7. Persistent abuse of these rules shall be cause for suspension from the FFA activity.
 8. No individual shall be allowed, under any circumstance, to interfere, or to act in an unprofessional manner, such as verbal abuse or any action which may be interpreted as intrusive, with anyone involved with the administration of any FFA activity.
9. Instructors and advisors in charge of FFA Members shall be responsible for the FFA Members' conduct at all times.

FAIRS AND SHOWS

Revised 6/2024

Fairs and Shows

- A. All FFA members and teachers are responsible for knowing and following all school, fair, and State Rules for California Fairs.
- B. FFA Members are allowed to continue showing in fairs during one calendar year after graduation from high school, but only if they have completed their senior year enrollment in agricultural education as an FFA Member (Calendar year means Jan 1 to Dec 31).
- C. A student prescheduled in agriculture is allowed to show at any summer fair immediately prior to entering seventh grade, provided the project supervision and Agricultural Experience Tracker were started 60 days (120 days for market beef) before the fair, and the student is affiliated with the local, State and National FFA organization. Under no circumstances, however, may a student exhibit as an FFA member prior to official completion of the sixth grade.
- D. The reference for the official FFA Show Uniform is listed in the California State FFA Constitution.
- E. All members, when representing the chapter, should wear the official FFA jacket with the name of the chapter on the back. FFA Jackets with Association on the back may only be worn by current or immediate past State Officers while conducting official association business. Section and Regional Officer Jackets should also be worn only by the officer when conducting either Section or Region business.

State CDE/LDE					
2024-2025 Summary-Continued					
Contest	Date	Host Site	Host Coordinator	Arbitrator	CATA Approved Advisor
Milk Quality & Products	5/3/2025	Cal Poly SLO	Dr. Vincent Yeung	Anthony Drumonde	
Natural Resource Management	1/25/2025	Reedley College	Kevin Woodard	Shay Williams-Hopper	
Nursery/Landscape	5/3/2025	Cal Poly SLO	Tiffany Faulstich	JessaLee Goehring	
Parliamentary Procedure-Advanced	04/2-3/2025	State Conference	Tom Vazquez	Tom Vazquez	
Parliamentary Procedure-Novice	04/2-3/2025	State Conference	Tom Vazquez	Tom Vazquez	
Poultry Judging	5/3/2025	Cal Poly SLO	Steve Soderstrom	Cindy Brown	
Prepared Speaking	4/1/2025	State Conference	Jackie Ioimo	Jackie Ioimo	
Small Engines	4/12/2025	Fresno State	Dr. John Williams	Jill Sperling	
Soil/Land Evaluation	5/3/2025	Cal Poly SLO	Dr. Gordon Rees	Dr. Lynn Martindale	
Vegetable Crop Judging	5/3/2025	Cal Poly SLO	Launnie Ginn	Jack Havens	
Veterinary Science	5/3/2025	Cal Poly SLO	Dr. Jaymie Noland	Greg Beard	

The CATA recognizes the following competitive events as being a trial event and it will be reviewed for three years to determine if it is sufficiently well-established to warrant holding a state championship event yearly.

California FFA					
State CDE/LDE - Trial Contests					
2024-2025 Summary					
Contest	Date	Host Site	Host Coordinator	Arbitrator	CATA Approved Advisor
Ag Mechanics Fair	6/13/2025	COS	Charlie Abee	Shay Williams-Hopper	
California Water	2/1/2025	Fresno State	Dr. Florence Cassel Sharma	Shay Williams-Hopper	
El Credo de la FFA	4/1/2025	State Conference	Shay Williams-Hopper	Shay Williams-Hopper	

1. The “California State Champion Career Development Event Site Coordinator, Advisor, and Arbitrator Chart” (above), must be updated by the State FFA Advisor with the approved/confirmed State Finals CDE CATA Approved Event Advisor by August 1st for the following year’s judging season and state finals events. The chart would be shared at the annual CATA August Governing Board meeting for final approval and distributed to host event sites and state staff. This provides the host site and state staff the opportunity to provide an event advisor contact to any current/new event coordinator for that upcoming year (if needed). The chart will be updated, revised, and kept current through the CATA office. All changes/revisions for host site and coordinators must be made by the host site prior to the state finals event. All state staff changes/revisions must be made by the State FFA Advisor before the state’s state finals event.
2. A “State Finals CDE Host Event Coordinator”: The State Champion CDE Host Event Coordinator would be responsible for the organizing, preparation, and implementation of their designated CDE event. This includes all aspects of the events (materials, judges, etc.) within the Curricular Code.
3. A “State Finals CDE State Staff Arbitrator”: This person will be selected by state staff and serve as a liaison and arbitrator in the event there is any discrepancy/issues between/within the event,

event coordinators, advisors, or coaches. Final verdict/decisions/authority will be made by the State FFA Advisor.

4. A “State CDE CATA Approved Event Advisor” will be selected/approved each year by the event’s top five team CDE coaches each year following the state’s event finals. The winning CDE coach of each event will communicate with the other four coaches and current standing advisor to approve/confirm another year of service. The advisor approved/selected must agree to the position and must be able to attend the following year’s state finals event at the host site. The State Champion CATA Approved Event Advisor’s primary responsibility is to assist the coordinator in the organization, preparation, and implementation of the event and to ensure the event is within the quality, standards, and parameters of the Curricular Code. The designated/approved State Champion CATA Approved Event Advisor can also serve as the State Champion CDE Host Event Coordinator approved by the host site and State FFA Advisor if approved by the CATA (Top five coaches of CDE state finals), host site, and state staff.

5. Qualifying Sites

- a) CDE’s that require teams to qualify to compete at the State Finals, the identified qualifying sites must adhere to the Curricular Code and conduct all portions of the CDE as identified in the Curricular Code.
- b) The tabulation results of qualifying sites must be forwarded to the CATA office in the correct format as identified within two weeks of the completion of the event. Qualifying sites that do not adhere to the correct format or meet the deadline will not be recognized as a “qualifying site” and their results will not be calculated in determining who qualifies to compete in the State Finals for that year.
- c) The State FFA Advisor shall approve all “Qualifying Sites”.

B. Rules for Career Development and Leadership Development Events

1. The time and place for holding State Championship Events shall be determined by the State FFA Advisor.
2. There will be no State FFA Novice Judging Finals Events, except Parliamentary Procedure, the divisions of Agriscience Fair, and the divisions of El Credo de la FFA.
3. Whenever there is a rule or contradiction between a specific event rule and the Curricular Code General Rules, the General Rules will take precedence.
4. To promote a positive environment and reduce potential negative perceptions, individuals, who have coached, helped train or provided direct guidance to a school/team, within 90 days, should not be considered when selecting those to serve as official judges.
5. In the year in which an event is up for review, the State Ag Ed Staff, along with the CATA Executive Director, shall review each event for relevance. The State Ag Ed Staff will then make a recommendation to the CATA Governing Board at the meeting prior to the CATA State Conference.
6. Other institutions or agencies conducting events involving FFA members should attempt to adhere to these rules to ensure uniformity between events.

C. Team Participation

1. Only one team per school may participate in any State Finals Career and Leadership

Development Event except for the Creed Recitation, Prepared Public Speaking, Extemporaneous Public Speaking, Job Interview, Impromptu Public Speaking and El Credo de FFA. Regional Participation in Leadership Development Events, including Parli Pro, at the State level, will be limited to a maximum of four (4) per region per event.

2. State final events that qualify teams to compete at a National Event, will consist of the number of contestants specified in the National Event rules. The National Events currently are:

Agricultural Communications	4
Agricultural Issues	3-7
Agricultural Mechanics	4
Agricultural Sales	4
Agronomy	4
Creed	1
Dairy Cattle Evaluation	4
Natural Resources Management	4
Extemporaneous Public Speaking	1
Farm Business Management	4
Floriculture	4
Forestry	4
Horse Evaluation	4
Job Interview	1
Livestock Evaluation	4
Marketing Plan	3
Meats Evaluation	4
Milk Quality and Dairy Foods	4
Nursery/Landscape	4
Parliamentary Procedure	6
Poultry Evaluation	4
Prepared Speaking	1
Veterinary Science	4

3. State final team events, which end at the State level, will consist of the number of members specified in the CATA rules for that event and the team will be scored as described in the rules for the specific event.
4. The minimum team size will be the number of team members that make up a team score. For example, if an event specifies a team size of four with four members making up the team score, then the minimum team size will be four. If an event specifies a team size of four with three members making up the team score, then the minimum team size will be three members.
5. A list of events which allow partial teams must be listed in the official, written, State Finals announcement.
6. At the discretion of the event advisor, alternates may be allowed to participate. The number of alternates per event is also at the discretion of the event advisor. These decisions **MUST** be made prior to and **MUST** appear in the official **written State Finals announcement for those events.**
7. ALL students participating in a state finals event shall be eligible for individual awards.
8. When the official announcement of judging events to be held is issued, all events

listed will be held regardless of the number of teams actually entered. However, if less than five (5) teams participate in an event in one year, that event will be placed on probation for the following year, at which time five (5) teams must have participated in the State Finals event. If less than five (5) teams participate during the probation year, the event will be discontinued until such time as sufficient interest is indicated to guarantee at least five (5) participating teams.

9. Late Arrivals at the Event - Teams arriving after the Official Dress check or failure to check in prior to when the event commences, will NOT be scored for official placing.
10. In an event where a team starts an event and one or more members are unable to continue due to sickness or accident, creating a partial team, the remaining member(s) are still eligible to continue and compete for individual awards.

D. Student/Advisor Participation

1. Each student entering a competitive event must:
 - a) Be an official FFA member.
 - b) Be a regularly enrolled member of an agricultural education class in high school or middle school/Jr. high and have completed the equivalent of a year's worth of agriculture course instruction during the current year if taking classes in a block or trimester system unless otherwise noted in curricular code.
 - c) Be enrolled at a high school taking course(s) receiving high school graduation credit or be enrolled in middle school/Jr. high classes eligible for promotion.
 - d) Not have been a member of a state championship team or represented California in a National event, in the type of event they are entering. For clarification: Members of state champion teams include all members of the team competing regardless of whether the member(s) score counted toward the official team score. If ineligible students are entered in the same event, in which they were a state winner, the team of which they are a member shall be declared ineligible.
 - e) Not have been an individual state winner in a Leadership Development Event (LDE) or represented California in the National FFA LDE finals. Exceptions: the Novice Parliamentary Procedure state winner may participate in the Advance Event and an individual State winner in the El Credo de la FFA lower divisions may move up to a higher division.
 - f) Not have been an individual student division/category state winner or a member of a state first place team in a division/category or represented California at the National Agriscience Fair, they can no longer compete in that division/category regardless of the research subject. Example: If a student wins Animal Systems Division I as a 7th grader, they can no longer participate in Animal Systems Division I, but can compete in another category in Division I as an 8th grader or in Division II in the same category.
 - g) Not have been an individual student division state winner in Ag. Mechanics Fair. A state winner may enter any of the other divisions.
2. The state champion team for CDEs and Parliamentary Procedure, the state individual winner in LDEs, and individual and team state winners in Agriscience Fair, shall qualify to participate in an approved national event representing California. If the first-place

team/individual does not wish to participate in the national event, the second-place team/individual would be considered followed by the third-place team/individual. In no circumstance shall a team/individual outside of the top three be considered to represent California in a sanctioned national event. Any team or individual who participates in a national event representing California would forego their eligibility to participate in that contest in future years. To participate in an out-of-state event a team/individual must be approved by the State FFA Advisor.

3. Members of the announced State Champion team may only compete in the same event, in subsequent year(s), upon being re-certified as eligible for competition, by the State FFA Advisor.
4. A student may enter only one speaking LDE event in the same year above the section level. (Creed Recitation, Prepared Public Speaking, Extemporaneous Public Speaking, Job Interview, Impromptu Public Speaking and El Credo de FFA.)
5. The official FFA uniform is to be worn by FFA members at the following FFA Leadership Development Events (LDEs): The reference for the FFA Uniform is listed in the California State FFA Constitution.
 - i. Creed Recitation
 - ii. El Credo de FFA
 - iii. Extemporaneous Public Speaking
 - iv. Impromptu
 - v. Job Interview
 - vi. Parliamentary Procedure and Debate
 - vii. Prepared Public Speaking
6. The official FFA uniform for State CDE Finals, Agriscience Fair and Ag. Mechanics Fair events will be Official FFA jacket, zipped to the top, white collared shirt and official FFA tie/scarf.

Adaptation of the uniform may be made during the event, i.e., tie/scarf taken off, jacket taken off, overalls put on. The official dress will be required for registration and acceptance of awards. Any FFA member not in uniform, as described above, will be ineligible to participate or receive awards.

7. A committee of one representative from the State Staff and one from the CATA will be in charge of enforcing rules concerning dress at State FFA events.
8. In the event a student is eligible for membership in two or more chapters; the student can be a member of one chapter only and compete for that chapter during the school year.
9. No student or instructor will be allowed to practice or familiarize themselves with the animals or materials to be used in the state final event within 90 days of the event. Violation of the above rule will result in disqualification of the team and its members from the State Level Competition for the year the violation occurs.
10. No contact is to be made to any state final event advisor 30 days prior to that activity. The only exception to this would be if a meeting of CATA event representatives was

called during that time. The only contact to be made within the 30-day period will be through the State FFA Advisor's office. Any violation may jeopardize the possibility of participating in the state final event.

11. All coaches, alternates and visitors must remain away from the event site during the competition, except as provided by the individual Curricular Code Event Rules. Violations will result in the disqualification of the team from the school(s) involved.
12. When a student is registered as a participant in any State Event, the teacher's submission of the entry form shall be considered a certification that the student has received training and safety instruction for that event. When, in the judgment of an event official, a participant in any state final event shall demonstrate incompetence or operate in a manner considered hazardous to himself/herself or others, that participant may be removed from the event. The judgment of the official shall be final.
13. Judging Cards – Contestants filling out placing cards that have irregularities or are undecipherable or incorrectly marked will be given the lowest possible score.
14. Contestants turning in a judging card that has no mark on it shall be scored a zero.
15. Use of Smart devices will not be permitted in a designated event area/building, except for individual CDEs/LDEs that specifically allow their use during the event. This would include, but is not limited to, cell phones, iPods, tablets, laptops, smart watches, etc. Violation will result in immediate removal from the event they competed in and they will become ineligible for any awards. Any devices collected prior to the start of the event will not be returned until all competitors have completed the event.
16. Students or advisors/coaches are not allowed to remove or copy/remove any event materials from the event site without the expressed consent of the event advisor. Any violation will result in the disqualification of the individual(s) and team(s) involved and barring of the individual(s) from participation in any event for a period of one (1) year and barring of the chapter from participation in that event for a period of one (1) year. Unless specified in the rules of a particular event, the only materials allowed to be taken into an event by a contestant shall be:
 - i. a notebook or clipboard containing blank paper (lined or unlined).
 - ii. a writing instrument (pen or pencil)
 - iii. silent battery operated non-programmable calculator.
17. Students giving oral reasons may take notes while judging the class, but these notes cannot be used while presenting their oral reasons.
18. Time Limit – Time limit for reasons in each event will be two (2) minutes and any action taken on this will be left to the discretion of the judges.
19. A copy of any written exam and key shall be available upon request after the event.
20. Any written materials turned in to be judged will be returned to the contestant upon completion of the event or handed back to the contestant in that contestant's school's tabulations packet.

E. Awards and National Event Representation

1. CDE Events: Awards will be given to top five teams and individuals in each section of each event designated as a sub-contest, and to the top five overall high teams and individuals in each event.
2. LDE Events: Placing awards will be given to all the participants in the final round.

3. Agriscience Fair Event: Placing Awards will be given to the top three in each category within each Division and overall top five State Champion Chapter Group in each Division (Discovery, Novice, and Advanced).
 4. Ag. Mechanics Fair Event: Placing Awards for the top three individuals in each Division and Awards to the Top Five Overall Individuals and Top Five Chapter Groups.
 5. The event results as announced and presented at the Awards Assembly will be considered UNOFFICIAL. Protest which question the calculation/scoring of tabulations of the event, and which may have an effect on the final placing of the OVERALL TOP TEAMS OR TOP INDIVIDUALS, must be filed using the protest form with a member of the State Ag Ed Staff assigned to the State Finals Event supervision/coordination or the State FFA Advisor within seventy-two (72) hours after the results are posted. The results will become official on the Friday following the State Final Competition.
 6. The team certified by the State FFA Advisor shall be eligible to represent the State of California in the official national competition. For a team to be certified, the team must be made up of not less than a majority of the members allowed on a team at national competition and be from the students who made up the team at the state qualifying competition. For example, a four (4) member team would need to have at least three (3) of the same members who competed on the team at the qualifying state competition.
 7. Preliminary Round results will be posted, but not subject to any questions/inquiries.
- F. Entry Form and Fees
1. Each event area has the flexibility to charge what is needed to run their event to cover expenses.
 2. Teams competing in a State Finals event may be assessed an entry fee to be established by the State FFA Advisor.
 - a) Registration fees are the responsibilities of the host site or their third-party vendor and are not regulated by CATA.
 3. When an entry is submitted for an any event, the entry shall be considered certification that all teachers and coaches have accepted the conditions of the "Agriculture Teachers and Coaches Code of Conduct".
- G. Individual CDE Event Rules Format
1. The format of information (rules) of state finals events shall include:
 - a) Purpose and Standards – Each event shall include a brief introduction to include purposes of the event and the foundation, agricultural and academic standards addressed by the event.
 - b) Contestants – The number of contestants allowed per chapter and the number used to determine the team score. Eligibility requirements (if any) for the team or contestants should be listed here.
 - c) Classes – A simple listing of all the classes and the maximum score of each class. Team event scores would be shown here as well.
 - d) Tie Breaker – A list of the classes or methods used to break ties.

- e) Requirements for the Host School – List any notification requirements for the host school such as class types, tools, engine types. Include the notification methods (email or website preferred) and the notification time. List any equipment that must be provided by the host school such as calculators. List any event materials that are to be returned to the contestants.
- f) Rules governing the event.
- g) Any materials that may be deemed useful to contestants or event host.
- h) Event score cards to be completed by contestants used for all state finals events will be posted on the CATA website for Curricular Code at least 30 days prior to the date of the event. Directions as to how the cards should be marked are encouraged. Such posting will supersede any samples found in specific event rules. Common standardized forms such as those created by Scantron and Judging Card may be referenced by name.
- i) Specific CDE rules will describe how cards are to be scored (for example formulas, weighing, Hormel method, etc.).
- j) All average scores will be rounded to the nearest whole number.

CURRICULAR CODE RULE CHANGES

Revised 6/2024

I. Curricular Code Rule Changes

1. All Curricular Code Judging Events will be divided into three groups and each group will be reviewed once every three years. Events in List A will be reviewed at Summer Conference in 2026 and every third year thereafter. Events in List B will be reviewed in 2027 and every third year thereafter. Events in List C will be reviewed in 2025 and every third year thereafter. Any trial event may be reviewed annually for three years and then placed in a normal rotation once it becomes an official state event. Trial event proposals must be submitted to the CATA Governing Board prior to their annual Winter Governing Board meeting. Proposals should contain an analysis of the costs associated with putting on the trial event and a statement from the prospective event administrator or institution indicating a willingness and ability to provide the resources to conduct the event. Proposals submitted to the CATA Governing Board will be circulated to the membership at Spring Regional meetings in a manner similar to the CATA resolution process. Final approval for trial events will be granted by majority vote at the CATA Summer Conference.

List A

Agricultural Communications
Agriscience Fair
Best Informed Greenhand
Citrus
Creed Recitation
Dairy Cattle Judging
Farm Power and Machinery
Forestry
Fruit Tree Judging
Impromptu Public Speaking
Livestock Judging
Marketing
Parliamentary Procedure and Debate Event
Poultry Judging

List B

Agricultural Issues Forum
Agricultural Sales
Extemporaneous Public Speaking
General Rules
Grapevine Judging*
Land Judging
Meat Judging

Milk Quality & Products
 Natural Resource Management
 Nursery/Landscape
 Prepared Public Speaking
 Small Engines
 Vegetable Crop Judging
 Veterinary Science

List C

Agricultural Mechanics
 Agricultural Pest Control
 Agricultural Welding
 Agronomy
 Cotton
 Farm Business Management*
 Farm Record Book
 Floriculture
 Food Science & Technology
 Fruit Tree Pruning
 Grapevine Pruning
 Job Interview
 Light Horse Judging
 Marketing Plan *

List D – Trial Events

Agricultural Mechanics Fair
 California Water
 El Credo de la FFA

*Event areas on probation

2. CATA Curricular Code Rule Changes relating to events will be made in the following manner:
 1. Procedure - Upon completion of any State FFA Finals, any CATA member may make a proposal for changing the rules. All proposed changes must be received in the Executive Director's office by June 1st in electronic format. The Executive Director will send copies to the Operations Division Chairperson, Curricular Code Chairperson, and the individual event chairpersons.
 2. Any request to open events for changes outside their normal rotation must be submitted to the Executive Director, in electronic format, and received by June 1st. By majority vote of the Governing Board, a portion or portions of the Curricular Code may be opened for consideration and changed during conference.
 3. Chairperson - The advisor of the first place team in the current state finals event shall function as chairperson of the committee to review and act on any suggested changes for that event. If the advisor of the winning team is unable to attend Summer Conference to function as chairperson of the committee, the chair shall be passed in descending order of placing, i.e., second place advisor, third place advisor until an available advisor is located. It will be the responsibility of the chairperson of the Operations Division to see that a chairperson is located.

4. Secretary - The secretary of the committee shall be a CATA member who coached a team that participated in that State Finals event. The chairperson may choose any coach desired.
5. Committee - The committee shall consist of all CATA members who coached a team that participated in that FFA event.
6. No Suggestions - If there are no suggested rule changes, it will be posted to the CATA website that there are no proposed rule changes.
7. The events open for revision, whether they are on the list or are opened only by the Governing Board, may make changes only to that portion or portions of the event that were submitted for revision.
8. Faculty Advisor - The faculty advisor of the university that sponsors the event will be asked to sit on the committee in an advisory capacity. It will be the chairman's responsibility to notify the faculty advisor if rule changes are being considered and to advise him/her of the meeting date and time.
9. Meeting - The committee shall meet during a scheduled time at Summer Conference to review and act on any rule changes suggested. To reduce the likelihood of conflicts, several different meeting times will be scheduled for each of the different events in order that a coach may attend meetings of more than one event.
10. Proxy - Any coach of a team participating in any FFA event that is unable to participate in the meetings may designate a proxy by writing to the chairperson.
11. Final Authority for Changes - The event committees will formulate the changes for the events reviewed. Their report will be presented directly to the general assembly for discussion, amendments, and final approval. The final authority for Curricular Code changes will be in the CATA Conference General Assembly and will require a majority vote.

II. Corrections in Code

- A. Typographical errors, misspellings and/or omissions, and conflicts with General Rules can be changed or corrected on a yearly basis. Any changes should be submitted to the State CATA Executive Director, who will contact the State FFA Advisor. A memo will be sent out to notify the membership.
- B. The State CATA Office will annually update the schedule of rotations for the individual contests that have sub-contest rotations.

CITRUS JUDGING

Revised 6/2024

Purpose

The Citrus Contest seeks to effectively prepare students for the expectations of the citrus industry. Workers seeking career in the citrus industry must develop a high degree of knowledge and skill in industry standards as well as critical thinking, oral communication, and plant biology. The knowledge gained from this contest can also be applied to general fruit production. California Career Technical Education Model Curriculum Standards addressed by this event include:

Foundation Standards: Academics 1.1, Communication 2.0, Listening and Speaking 1.1, 2.2, 1.8, Leadership and Teamwork 9.0, and Written and Oral English Language 2.3.

Plant and Soil Science Pathway: G3.1-3.3, G4.2, G5.1-G5.2, G10.1-10.3.

Contestants

The team shall consist of three or four members. The scores of the three highest team members shall be used for the team score. All team members are eligible for individual awards.

"A" teams shall consist of members designated by the instructor, and will compete for State Championship. Only one "A" team may be entered. "B" teams shall consist of members designated by the instructor. More than one "B" team per school may enter. A school does not have to enter an "A" Team to compete in the "B" Team contest.

Classes

Class	Individual Points	Team Points
Judging Class 1	50	150
Judging Class 2	50	150
Judging Class 3	50	150
Judging Class 4	50	150
Judging Class 5	50	150
Judging Class 6	50	150
Judging Class 7	50	150
ID Class 8	100	300
Reasons Oranges	50	150
Reasons Trees	50	150
Reasons (Lemons/Mandarins)	50	150
TOTAL	600	1800

Tie Breaker

1. The team or individual scoring the highest reason score(s) will be the winner.
2. When all possible means for breaking ties have been exhausted, the total score of the individual or team will be used to determine the high individual or team.

Sub-contest Awards

Sub-contest awards will be given for high teams and individuals in the following areas: Oranges, Lemons or Mandarins, Nursery Trees, ID, and Non-reasons Citrus (grapefruit & other non-reasons citrus, ie. lemons or mandarins). Reasons will be included in their respective class sub-contests.

Host School Requirements

Host school will provide an "A" contest and a "B" contest, with the "A" contest designated as the state finals contest.

Rules

- I. There will be eight classes in the contest and reasons will be given on three classes. The classes in rotation are oranges, lemons, mandarins and citrus nursery trees. Reasons will be given on one class of oranges, one class of nursery trees and one class of either lemons or mandarins. Contestants will not be informed what the reasons classes will be until the day of the contest. Four of the remaining classes will be selected from oranges, lemons, grapefruit, mandarins and nursery trees. The eighth class will be an ID class.
- II. Each fruit class consists of four plates of fruit 1, 2, 3, 4. On each plate there will be four whole fruits and one cut fruit. The center cut sections are to represent the inside quality of the whole fruits on the plate.
- III. In the citrus nursery tree class there will be four groups of trees. Each group will consist of three trees and one bare root tree which will represent the root system of the group.
- IV. Ten minutes will be allowed for placing each of the seven classes in the contest. From reason classes only, each contestant will go directly to the judge, and have two minutes for giving oral reasons.
- V. The ID class shall be of a matching type. It will be limited to twenty items to be identified with five points for each correctly identified item. Time limit is fifteen minutes. Objects or defects to be identified should be prominently displayed with an arrow or circle. They should also remain stationary. All samples will be placed on cups to ensure that touching and rolling of fruit does not occur.
- VI. No touching items in ID. Contest Coordinator should provide a room monitor to ensure that samples have not been moved after each rotation.
- VII. Prior to the start of the state qualifying finals, the top five coaches representing the previous year's state qualifying finals will confirm all of the classes are set up, as well as verify and agree upon the accuracy of the identification portion. Final official identification items will be determined by a majority consensus of the top five coaches represented, the CATA approved contest consultant, and the host facility contest chair.
- VIII. Definitions:
 - A class of fruit consists of four plates of fruit.
 - A plate consists of four whole fruits and one cut fruit.
 - No contestant will be permitted to move, touch, handle, or to mar in any way the cut sections on the plate.

- No contestant is permitted to pick up or move any fruit out of the tray. Contestants are permitted to roll the fruit carefully around on the tray. Failure to properly handle fruit will result in loss of score.
- Ignore all labels on the fruit.
- Packing marks are not to be considered unless they have injured the rind of the fruit.
- Questions will be answered by the group leader or contest coordinator.
- After completing a class, contestants will proceed directly to the next class and wait there until they are permitted to enter the contest room or area.

Score Card For Oranges20% TYPE (Including Shape)

Navel - Round in shape with a slight cup at the stem end. Elongated or pear shaped fruit as well as flattened or tomato shaped fruit is undesirable. Relatively small, compact and uniform navel openings are desirable. Trueness to type and uniformity of the fruit on the plate is very important.

15% COLOR

Should be of uniform reddish-orange color free from greenness around the stem or paleness covering one side or portion of one side of the fruit. Uniformity of color on the plate is very important.

20% CONDITION

Fruit should appear fresh and firm. The rind should be strong and free from puffiness or crease. The button should be green and firmly attached. The surface of the fruit should be free of bruises, scratches, punctures or defects which cause decay or pitting.

25% TEXTURE AND BLEMISHES

The texture should be strong, pebbly and free of ridges or roughness around the stem. Blemishes should be judged on how seriously they detract from the appearance of the fruit or would cause loss through decay. The following is a list of the most common blemishes or defects:

- A. Wind scars, limb rub, leaf marks, cluster marks, clipper cuts, punctures or scratches.
- B. Thrip marking, scale or scale pitting, red spider damage, aphid damage, scale smut and leaf hopper scar.
- C. Sunburn and frost damage.
- D. Dirtiness.
- E. Spray damage.

20% RIND SECTIONS

Rind should be medium in thickness without excessive rag. The core should be relatively small and compact, with open hollow core being undesirable. Orange should have well-filled juice vesicles and not show much rag between segments. Fruit sections in the center are undesirable. Freedom from seeds is desirable. The fruit should be cut transversely through the center.

Score Card For Lemons20% TYPE (Including Shape)

Shape should be ovate with typical amount of protruding stem or stylar ends for the Eureka lemon. Flat or abnormal protruding ends are undesirable. Uniformity of type on the plate is very desirable.

15% COLOR

Light lemon yellow is the most desired color. The fruit should be uniform in color and free from green, bronzed or sunburned areas. A faint green tip (stylar end) is not objectionable.

20% CONDITION

Strong, sound, and in good shipping condition. Fruit of good vitality is in more demand than fruit that has been stored until it is old. Button should be green and securely attached. Fruit should be firm and have a fresh appearance.

25% TEXTURE AND BLEMISHES

A good lemon should have a smooth, even texture. It should be free of ridges, depressions and roughness. Blemishes of any kind detract from the eye appeal of the fruit. Any blemishes that penetrate the rind and leave an opening for decay should be considered serious. The following is a list of blemishes and defects of lemons:

- A. Wind scars, bruises, scratches, clipper cuts, puncture.
- B. Spray damage.
- C. Sunburn and frost damage.
- D. Dirtiness.
- E. Insect damage.

20% CUT SECTION

The cut section should show a small, tight core. Juice vesicles should be well filled and should show no drying of the segments due to internal decline, frost or sunburn. The fewer seeds the better. Rind should be thick enough to indicate strong fruit, yet not too thick. Hollow core and puffy rind are undesirable. Flesh should be yellow in color. The fruit should be cut transversely through the center.

Score Card For Grapefruit20% TYPE (Including Shape)

The fruit should be more flat than round. Elongated fruit or fruit that protrudes at the stem end is undesirable. Uniformity of type on the plate is very important.

15% COLOR

White type grapefruit or Ruby (pink) grapefruit should be a uniform light yellow color, free from greenness or a bronze tinge. Ruby will show characteristic "blush."

20% CONDITION

Fruit should appear fresh and firm. The rind should be strong. Button should be green and firmly attached. The entire surface of the fruit should be free of bruises, scratches, punctures or defects which cause decay or pitting

25% TEXTURE

Texture of the grapefruit should be smooth and uniform over the entire surface of the fruit. The grapefruit should be free of roughness and coarseness. Blemishes on the grapefruit are undesirable. The following are the most common blemishes found on grapefruit:

- A. Wind scars, limb rub, leaf mark, cluster marked.
- B. Thrip marking, scale or scale marking, scale smut.
- C. Sunburn, frost damage
- D. Dirtiness.
- E. Spray damage

20% CUT SECTION

The cut section of the grapefruit should show a medium thin rind and a tight core without excessive rag. The segments of the fruit should be large and uniform. The juice vesicles should be well filled with a minimum of rag between segments. The fruit should be seedless. Color of flesh should be a light yellow in white type grapefruit or blush pink in Ruby Red fruit. The fruit should be cut transversely through the center.

Score Card for Mandarins**20% TYPE (Including Shape)**

W. Murcott or Tango mandarins should be ovoid to flattened in shape. Elongated or pear shaped fruit is undesirable. Trueness to type and uniformity on the plate is very important.

15% COLOR

The color should be of uniform reddish-orange color free from excessive greenness (less than 20% can have a green blush). Uniformity of color on the plate is very important.

20% CONDITION

Fruit should appear fresh and firm. The rind should be strong and free from puffiness or creases. The button should be green and firmly attached. The surface of the fruit should be free of bruises, scratches, punctures, or defects which can cause decay or pitting.

25% TEXTURES AND BLEMISHES

The texture should be smooth and free of ridges or roughness around the stem. Blemishes should be judged on how seriously they detract from the appearance of the fruit or would cause loss through decay. The following is a list of the most common blemishes or defects:

- A. Wind scars, limb rub, leaf marks, cluster marks, clipper cut, punctures, or scratches
- B. Thrip markings, scale or scale pitting, red spider mite damage, aphid damage, scale smut, and leaf hopper scar.
- C. Sunburn and freeze damage
- D. Dirtiness
- E. Spray damage or spray residue

20% CUT SECTION

Rind should be medium thickness without excessive rag. The core should be relatively small compact with a small hollow core. Mandarins should have well-filled juice vesicles and not show much rag between segments. The fewer seeds the better. Brilliancy of the cut section is desirable. The fruit should be cut transversely through the center.

Citrus Nursery Tree Score Card

- A. Bud Union and Trunk - 30%
 - 1. The bud union should be well healed with the bud showing a uniform healing around the rootstock.
 - 2. The bud union should show either no scar from the cutting of the rootstock or a clean cut. No stub should be seen.
 - 3. The bud union should be free from evidence of sunburn.
 - 4. The bud union should be no less than 6" above the soil or root ball and no more than 12".
 - 5. The trunk should be straight, showing uninterrupted growth, as evidenced by the growth nodes on the trunk. If growth nodes exist, there should be no more than 2.
 - 6. The trunk should be free of mechanical injury, sunburn, disease, insect pests and any scars.
 - 7. The size of the trunk should be 7mm to 10mm in diameter, one inch above the bud union.
 - 8. The tree ties should have staples (if present) against the stake, not the trunk. The ties should be snug, but not girdling the tree.
 - 9. There should be no evidence of die-back.
 - 10. The trunk should be lignified no less than $\frac{3}{4}$ of the length of the trunk above the bud union.
- B. Root System - 30%
 - 1. Each tree should have a well-developed, straight root system.
 - 2. Branch and fibrous roots should be numerous, and throughout the entire root ball, so thick it would be difficult to see the tap roots.
 - 3. The root system should be free from evidence of disease, insect and rodent damage, mechanical injury, and should be of healthy, straw-yellow color or white color.
 - 4. The bottom of the root ball should have no benched or circling roots.
- C. Foliage - 20%
 - 1. The foliage should be large, have a uniform healthy dark green color, free from evidence of pest damage and any nutrient deficiencies.
 - 2. A "ready" tree should have foliage the full length of the trunk. From the bud union to the tree's top.
 - 3. Evidence of new growth in the top 4"-6" is best in class.
- D. Container - 20%
 - 1. The container should be free from cracks or rips and protruding roots.
 - 2. The soil should be moist.
 - 3. Distance from the top of the container to the top of the soil should be 1" for the uniform water penetration into the root ball. Greater than 1" is not acceptable.
 - 4. There should be no exposed roots on the soil surface or protruding from the bottom of the container.
 - 5. There should be no visible weeds in the container.

Scorecard for Matching Identification

Twenty items to be identified will be selected from the list below. No other items will be included in the ID portion.

- | | | FRUIT OR TREES | | |
|-----|----------------------------|----------------|----------------------------------|--|
| 1. | Aphid damage | 26. | Mechanical damage | |
| 2. | Bench root | 27. | Mineral deficiency | |
| 3. | Black Sooty mold | 28. | Mite damage (silvering of fruit) | |
| 4. | Blue/Green mold | 29. | Off color fruit | |
| 5. | Botrytis fungus | 30. | Off shape fruit | |
| 6. | Brown rot | 31. | Oleocellosis | |
| 7. | Chimera | 32. | Packing marks | |
| 8. | Citricola Scale | 33. | Peel miner damage | |
| 9. | Clear Rot | 34. | Puffiness | |
| 10. | Clipper marks | 35. | Punctures | |
| 11. | Cluster marks | 36. | Red scale | |
| 12. | Cottony cushion scale | 37. | Ridges | |
| 13. | Creases | 38. | Rootstock sucker | |
| 14. | End check | 39. | Septoria spot | |
| 15. | Freeze damage | 40. | Sheepnose fruit | |
| 16. | Granulation | 41. | Snail damage | |
| 17. | Hail damage | 42. | Spray damage | |
| 18. | Headed tree | 43. | Split skin | |
| 19. | Ice marks | 44. | Sunburn | |
| 20. | Improper root system | 45. | Thrips damage | |
| 21. | Katydid/grasshopper damage | 46. | Wind scar | |
| 22. | Leafhopper damage | 47. | Whip tree | |
| 23. | Leaf mark | 48. | Earwig damage | |
| 24. | Leaf miner damage | 49. | Alternaria | |
| 25. | Limb marks | 50. | Retained blossom | |

AGRICULTURAL ISSUES FORUM

Revised 08/2024

Introduction

Purpose

The purpose of the agricultural issues forum is to present a current issue to a public audience; therefore, professional ethics and standards are to be considered. Ignoring truthful information, falsifying needed information, using unreliable sources and plagiarism are violation examples which could result in disqualification.

Objectives

- To provide an opportunity to expose a wide variety of students to the selection, research, planning and presentation of an agricultural issue.
- To acquire knowledge and skills in community leadership for present and future use.
- To become knowledgeable of, and familiar with a variety of local, state, national and international issues facing agriculture.
- To understand the principles and fundamentals of agricultural issue analysis.
- To further the awareness of agricultural issues in the local community.
- To promote integration of agricultural issue analysis in local school academic subject matter areas.
- To promote career choices by providing an opportunity for individuals to become acquainted with professionals in the industry.
- To foster teamwork, leadership and communication skills.

Contestants

The contest is intended as a competitive activity involving a team of three-seven members, but any number of students may assist with the primary and secondary research.

Classes

Class	Team Points
Presentation	100
Questions	50
Portfolio	50
TOTAL	200

Tiebreakers

Ties will be broken based on the greatest number of low ranks. Team's low ranks will be counted and the team with the greatest number of low ranks will be declared the winner. If a tie still exists, then the contest advisor will rank the team's response to questions. The team with the greatest number of low ranks from the response to question will be declared the winner. If a tie still exists then the team's raw scores will be totaled. The participant with the greatest total of raw points will be declared the winner.

Sub-contest Awards

Sub-contest awards will be given for high teams in the following areas: Presentation, Questions, and Portfolio.

Requirements of the Host Institution

See Event Format, Equipment Provided.

Event Rules

- I. The issue is determined by the chapter and can be a local, state, national and international issues facing agriculture.
- II. Each student must take an active role in the presentation to be eligible for awards. This includes active participation in the presentation and making themselves available for questions from the judges.
- III. Presentations may include official FFA dress, costumes, props, skits and other creative paraphernalia.
- IV. A minimum of three competent and unbiased judges will be provided. They will be instructed not to take sides on the issue(s). Professors and industry representatives are recommended. The judges will be adequately prepared before the event competition.

Event Format

- I. Equipment Provided - The following equipment will be provided at the event site:
 - A. Two tripod easel (24"x 36")
 - B. One overhead projector and screen
 - C. One podium
 - D. Table and three chairs
- II. Any other items needed in order to conduct the presentation must be brought by the competing team. Five (5) minutes will be allowed for set up and three (3) minutes will be allowed for take down.
- III. Each team will conduct a presentation on the issue developed and presented at the local level.
- IV. The issue will come from one of the following eight agricultural issue topic areas as listed in the Focusing on Agricultural Issues instructional materials:
 - A. Environmental Issues
 - B. Agricultural Technology Issues
 - C. Animal Issues
 - D. Agricultural Career Issues
 - E. Economy and Trade Issues
 - F. Agricultural Policy Issues
 - G. Food Safety Issues
 - H. Biotechnology
- V. The same agricultural issue presentation and portfolio will not be used in subsequent years by the same chapter and/or advisor.
- VI. Research on the topic must be current and students must be involved in all the research of the topic and development of the portfolio.
- VII. The portfolio should include items described in a, b and c below, and will be limited to ten pages single sided or five pages double sided maximum not including cover page. The cover page will include the title of the issue, the chapter name, address and phone number of the chapter. A maximum of ten (10) points will be deducted for exceeding the maximum amount of pages and /or for not including the cover page containing required information. An electronic submission of the portfolio must be received by the contest site on Friday, one week prior to the State Finals. A penalty of 50% (25 points) will be assessed for documents received after the deadline. Zero (0) points will be given for portfolios that arrive less than one day before the event.

- A. A maximum of two pages of the portfolio will include a summary of the issue, answering the questions that are most relevant to your topic:
 - 1. List course(s) in which instruction occurred including the number of students involved in the instruction of the issue. (See Objectives)
 - 2. Why is this issue important now?
 - 3. What is the nature of the issue?
 - 4. Who is involved in the issue?
 - 5. How can the issue be defined?
 - 6. What is the historical background of the issue?
 - 7. What caused the issue?
 - 8. What are the risks?
 - 9. What are the benefits?
 - 10. Is there strong disagreement on how the issue should be solved?
 - B. A bibliography of all resources and references cited which may include personal interviews and any other supporting material.
 - C. Provide documentation that local forum(s) occurred prior to the State Finals such as:
 - 1. Letters from organizations
 - 2. News articles
 - 3. Photos showing attendance at forums (3 x 5 or 4 x 6)
 - 4. Scrapbook
 - D. Please state when, where and to whom the forum(s) were presented and indicate how many community members were in attendance at each of the forum(s). This must include the name, signature and contact phone number of the name of the President/Chairperson and/or his/her designee of where the forum was presented.
 - E. A chapter must have a minimum of five high quality public forums prior to competing at the State Finals in to receive the maximum of 30 points.
 - 1. Multiple organizations attending the same forum will count as one forum. If more than one forum is held on the same day, the starting time of each forum must be independently documented.
 - 2. Portfolio judges may take into consideration the quality and quantity of presentations made to audiences outside of the school. No points will be awarded for school presentations to teachers and students. In addition, no points shall be awarded for forums presented as any part of a local or state FFA competition.
 - F. **High quality forums** are those presentations made to community groups that would have an interest in the issue. Suggested procedures for setting up these presentations and examples of community groups have been provided in the *Agricultural Issues Forum Presenter's Guide*. High quality forums can also be with smaller numbers of individuals who hold elected, appointed or some other official position that will be making decisions on the issue.
 - G. **Examples of low quality forums** would be dropping in at a local business and giving your presentation to the workers or going to the home of one of the parents to make a presentation. Low quality forums will receive zero or minimal points.
- VIII. Time Limits: Five minutes will be allowed for set up. The presentation will be a maximum of 15 minutes in length. The presenters will receive a signal at 10 minutes and 14 minutes. At 15 minutes the timekeeper will announce that time is up, and the presentation will end. A maximum of seven (7) minutes for questions and answers will be allotted. Questions and answers will terminate at the end of seven (7) minutes. Three (3) minutes will be allowed for take down.
- IX. If there is an equipment failure during the presentation, the team will be allowed five minutes to set up again.

- X. The presentations will be designed to be viewed by the judges. The audience at-large will not be of concern to the presenters.
- XI. The judges may ask questions of all individuals of the presenting team. Each individual is encouraged to respond to at least one question from the judges.

Scoring

- I. Team Presentation:
 - A. (1) Introduction, (2) Pro, (3) Con and (4) Summary of Pro and Con (20 points each, 80 points total) There will be a 5-point deduction from the scorecard of any team that draws a conclusion supporting a pro or con viewpoint during the formal presentation.
 - B. Overall Presentation (participation of each member of the team, quality and power of the presentations, creativity, stage presence and memorization) (20 points)
 - C. Questions (50 points)
- II. Portfolio: 10 single sided pages maximum or 5 double sided pages. (Three parts, 50 points total)
 - A. Summary of the Issue, 2 pages maximum (10 points).
 - B. Bibliography (10 points).
 - C. Documentation of local forums (30 points).
 - 1. Please state when, (date and time) where, and to whom the local forums were presented to. If you indicate that more than one forum was held on the same date, independent documentation of the time of day the forums were held must be provided. This must include the name, signature and contact phone number of the name of the President/Chairperson and/or his/her designee of where the forum was presented.
 - 2. Maximum of 10 points will be deducted for exceeding the maximum number of pages and/or not including cover page containing required information.
 - D. Prior to the event, the portfolios will be judged and scored by qualified individuals using the portfolio scorecard. Portfolio scores will be averaged and supplied to the presentation judges after they have scored the presentation. Portfolio comment cards will be completed by portfolio judges and presented to the teams in their results packet. Presentation judges will be furnished with copies of the team portfolio, which they will use to formulate questions.
- III. Judges' ranking will be used to place teams.
- IV. Teams shall be ranked in numerical order on the basis of the final score to be determined by each judge without consultation. The judges' ranking of each participant then shall be added, and the winner will be that participant whose total ranking is the lowest. Other placings will be determined in the same manner (low rank method of selection).

REFERENCES

This list of references is not intended to be inclusive. Other sources may be utilized and teachers are encouraged to make use of the very best instructional materials available. The following list contains references that may prove helpful during event preparation.

Updated Focusing on Agricultural Issues
Instructional Materials located at:
<http://web.ics.purdue.edu/~peters/>

Global Vision Instructional Materials,
Agricultural Education Resources Catalog,
National FFA Organization

Agricultural Issues: Food Safety Video,
Agricultural Education Resources Catalog,
National FFA Organization

Agricultural Issues: Ground Water Safety Video,
Agricultural Education Resources Catalog,
National FFA Organization

Score Cards

PORTFOLIO

Portfolio (50 points)	Points Possible	Above Average		Average		Below Average	
		10-8	7-5	4-1			
Summary of the Issue	10 points						
	Points Possible	10-8	7-5	4-1			
Bibliography (should represent a minimum of 5 sources)	10 points						
	Points Possible	30-26	25-21	20-16	15-11	10-6	5-1
Documentation from Local Forum (6 points/high quality forum)	30 points						

Team Sub Total _____

• Deduction for exceeding the maximum number of pages and incomplete cover page (10 pts. Max).	Deduction	()
• Deduction for portfolios received after postmark deadline (25 pts.).	Deduction	()

Total Score _____

Judge's Signature _____

TEAM PRESENTATION

		Superior	Above Average	Average	Below Average	Inferior
	Points Possible	20-17	16-13	12-9	8-5	4-0
1. Introduction - Statement of the issue and its importance	20					
2. Pro View Point	20					
3. Con View Point	20					
4. Summary of Pro & Con	20					
5. Overall Presentation	20					
	Possible Points	50-41	40-31	30-21	20-11	10-1
6. Questions	50					
7. Portfolio	50					
Total	200					

Judge's Signature _____

AGRICULTURAL MECHANICS

Revised 08/2024

Purpose and Standards

The agricultural mechanics event seeks to effectively prepare the students for the expectations of the agricultural mechanics' workplace. Workers seeking careers in agricultural mechanics must not only develop a high degree of knowledge and skill they must also develop the ability to solve difficult problems. This event blends the testing of manipulative skills and knowledge required for careers in fabrication and construction. California Career Technical Education Model Curriculum Standards addressed by this event include:

Foundation Standards: Mathematics Algebra, 10,13,15 and Geometry 8,10,11. Technology 4.1, 4.2, 4.6. Problem Solving and Critical Thinking 5.1. Health and Safety 6.2,6.4,6.5. Ethics and Legal Responsibilities 8.3. Leadership and Teamwork 9.1, 9.2, 9.3.

Agricultural Mechanics Pathway Standards: B1.1, B1.2, B2.1-B2.4, B3.1-B3.5, B4.1, B4.3, B4.4, B5.1-B5.5, B6.1-B6.3, B7.1-B7.5, B8.1-B8.4, B9.1-B9.7, B12.1, B12.3, B12.6

Contestants

To be eligible to compete at the state finals contest, a team must compete in a minimum of three qualifying field days. To be a qualifying contest, the contest must adhere to the following criteria:

1. Submit the contest date to FFA for inclusion on the calaged.org calendar by October 1.
2. 1 team per school has priority before alternates are allowed into contest.
3. Agree to submit results of the contest within two weeks following the contest.
4. Agree to submit the results in the following manner:
 - a. Include the complete chapter name
 - b. Include the Chapter ID number (CA_ _ _)
 - c. Provide a ranking list of only the "A" teams (no "B" teams or alternates)
5. Agree to cover the six rotations outlined within this code. With the exception of the State Finals contest, a contest site may modify the rotation structure by splitting a rotation into two or by inserting a "Bye" rotation. In either case, the total points for a rotation area will be 100 points (ie. If a Problem Solving rotation is split into two, the parts added together will equal 100 points).
6. In order to become a qualifying contest site, the contest must be run for 1 year as a probationary contest to ensure they can meet eligibility as outlined in #4 above. After one year, coaches that attended the contest can vote to approve the contest to be added to the list. No state staff official will be able to add a new qualifying contest its first year to this list without it first being a probationary contest.
7. If a contest site on the approved list does not run a contest for three (3) consecutive years, then that contest site will be dropped from the list and will have to go through the probationary process again to get back on the list.

8. The qualifying contest list will be reviewed every three years when the Ag Mechanics contest comes up for its Curricular Code review, and contest sites may be removed if their contest has not been adhering to the criteria in #4 above.

Only the top 24 teams, determined mathematically, will be eligible to compete at the state finals contest. The formula to calculate the 24 qualifying teams will be:

$$\text{Weighted Score} = (51 - \text{Ranking}) + (\# \text{ of teams} - \text{Rank})/2.$$

Top 24 Tie Breaker: Use the rank of the 4th contest for the tie breaker of the top 24 ranking for the state finals contest. If a tie still exists go to the 5th contest.

Teams consist of four members, with all four individual scores counting as the team score. All team members are eligible for individual awards. A partial team of no less than three contestants may compete and be ranked at any contest leading up to the State Finals contest by including a score of "0" for the fourth score (all four scores make up the team score).

Classes

This contest shall include six rotations:

Class	Individual Points	Team Points
Tools and Materials Identification / Written Test	100	400
Arc Welding Skills	100	400
Problem Solving /Plan Interpretation	100	400
Electrical Skills	100	400
Option Area #1	100	400
Option Area #2	100	400
Total (possible per contestant)	600	2400

The option areas shall be selected from the following three groups of contest areas. The Option Groups will alternate on a three-year rotation based on the year that the State Finals contest is in.

Option Group #1 - 2024

Electric Motors & Controls
Plumbing Skills

Option Group #2 - 2025

Cold Metal and Sheet Metal Fabrications Skills
Oxyfuel Welding/Cutting Skills

Option Group #3 - 2026

Leveling and Land Measurement Skills
Woodworking/Carpentry Skills

Tie Breaker

1. In the Agricultural Mechanics Contest, individual or team ties will be broken on the basis of the highest individual or team score using the Tool & Material Identification/Written Test score.
2. If a tie still exists, the individual or team arc welding score will be used to determine the high individual or team.
3. If a tie still exists, the total score of the individual or team will be used to determine the high individual or team.

Sub-contest Awards

Sub-contest awards will be given for high teams and individuals in the following areas: Tools and Materials Identification/Written Test, Arc Welding Skills, Problem Solving / Plan Interpretation, Electrical Skills, Option Area #1, and Option Area #2.

Host School Requirements

Project plans, scored sheets, and the written test are to be provided as described below:

Rules

- I. Each qualifying contestant will compete in all six events.
 - A. At the time of the contest, plans and instructions will be provided to contestants. The time limits on each event will be forty minutes in length plus a five-minute instructional / passing period for a total of forty-five minutes per event. Each contestant will provide and use safety glasses conforming to OSHA standards throughout the contest.
 1. Each Contestant (not shared) must have the following equipment:
 - a) Steel Tape
 - b) #2 Pencil
 - c) Combination Square
 - d) Safety Glasses
 - e) Calculator
 - f) Clip board
 2. Each Team (4 contestants) will have the following minimum equipment - see Appendix I list.
 3. Host school may modify the list by providing changes to list (additions or deletions) 30 days prior.
 4. Tools must be safe to operate (ex. guards in place). Unsafe tools may be confiscated for the duration of the contest
 - B. The sponsoring school has the option to include safe work habits as part of the scorecard. Contestants will be informed at contest lineup that 25 points will be deducted for violations such as, but not limited to, not wearing safety glasses, power tool misuse, not wearing proper gloves while welding, etc. After this point deduction on the scoresheet, the sponsoring school reserves the right to remove any contestant that violates accepted safety practices that endanger him/herself or others in the contest from that particular skill area. The student may continue with the remainder of the contest but will receive no credit/points for the area where the infractions occurred. After a warning, the sponsoring school reserves the right to remove any contestant that violates accepted safety practices that endanger him/herself or others in the contest.
 - C. The sponsoring school has the option of requiring each school and contestant to sign a liability release as a condition of participating in the contest.

- D. The sponsoring school has the option of limiting the use of power tools at their contest as long as participating schools are notified of the limitation at least 30 days prior to the contest.
- II. No unauthorized notes, printed materials, or tools may be used in Written Test/Tool ID or Problem Solving areas of the contest. Contestants found in violation will be disqualified from contest.
- III. Portable, cordless, rechargeable, battery powered tools may be used in the contest only as specified in each skill or option area. No means of charging batteries will be provided by the sponsoring school in the event of dead or low batteries.
- IV. Contest Area Descriptions
- A. Tool and Material Identification / Written Test. This area will consist of 50 items to identify and 50 questions to answer.
1. Tools and Materials Identification
 - a) The tools and materials identification event shall consist of the identification of common tools and materials used in agricultural mechanics and limited to those items listed on the California Agricultural Teachers' Association Website for the Curricular Code.
 - b) Multiple-choice type questions requiring identification or selection of proper tools or materials or bill of materials may be included.
 - c) That the Tool ID test use real tools and materials and not pictures for the test.
 2. Written Test
 - a) Shall include questions and/or problems from the following areas:

Areas	Points
General Ag Mechanics & Safety	5
Arc Welding	5
Electrical Skills	5
Electric Motors & Controls	5
Woodworking/Carpentry Skills	5
Plumbing Skills	5
Cold Metal and Sheet Metal Fabrication Skills	5
Oxyfuel Welding & Cutting Skills	5
Leveling and Land Measurement Skills	5
Concrete & Masonry	5
Total Points Possible	50

- b) The test can be true-false, multiple choice, or any combination of tests. Questions will be limited to the following reference list:
- c) Modern Agricultural Mechanics by Burke and Wakeman, Published by Interstate.
- d) Agricultural Mechanics: Fundamentals and Applications by Cooper, Published by Delmar.
- e) Electrical Wiring by AAVIM.
- f) Leveling and Land Measurement Practices for Agriculture (along with student workbook) Agricultural Education Department, University of Arizona or Hobar Publications.

- g) Surveying Reference: *Landscape Surveying (2nd Edition)*, Field, Publisher: Cengage.
 - h) Plumbing Reference: *Principals of Irrigation (3rd Edition)*, Irrigation Association.
 - i) These resources are to be the most current editions.
 - j) A copy of that year's written test will be provided to coaches as a hard copy or electronically.
- B. Arc Welding Skills (SMAW and/or GMAW)
- 1. GMAW would be an option for the host school. If they choose to have GMAW then the host school will inform the participating school's coaches.
 - 2. Arc welding may be in the flat, horizontal, vertical or overhead positions or project construction incorporating butt, lap, tee, flange, corner, pipe to plate or pipe to pipe joints using, AC or DC machines. A variety of electrodes will be provided or contestants may bring their own. Contest personnel will be available to familiarize contestants with the welding machine.
 - 3. Clothing - Each contestant shall provide and wear coveralls, a shop coat or uniform for this event. Clothing must be in good repair and fit properly. Long sleeve clothing must be worn when welding or cutting. Clothing must be non-synthetic (e.g., cotton, wool, leather, cotton blend, etc.)
 - 4. Project plans and score sheets will be provided to coaches either as a hard copy or electronically.
 - 5. A cordless angle grinder or drill may be used with a wire cup for cleaning up welds.
- C. Problem Solving & Plan Interpretation
- 1. Contestants would be required to perform calculations and/or answer questions based on a project, a scenario, or a set of plans. Questions must be based on current year six (6) rotations. Examples of possible activities include, but not limited to the following:
 - a) Answer questions on a set of plans or a given scenario
 - b) Develop a cut list
 - c) Develop a bill of materials
 - d) Make corrections on a set of plans
 - e) Perform actual measurements on a project
 - f) Answer questions based on provided code information
- D. Electrical Skills
- 1. Electrical Skills - may include one or more of the following:
 - a) Teams would provide a standardized electrical board that would be suitable for projects using single conductor or NM cable, a variety of devices, and a number of wiring problems. These boards would be standardized in configuration and size as described below. Teams could use these for practice.
 - b) Host schools would provide consumable wiring materials (so contestants can take the completed project).
 - c) Boards would be required for state finals and recommended for other competitions. As with tools, a team not providing the boards and associated supplies for each contestant would be unable to compete.
 - d) Boards not constructed to specifications outlined in this section may not be scored.

- e) Allow for the pre-wiring of ground wires in boxes only.
- f) Contestants may provide their own pigtails or NM cable that is no longer than 10" in length.
- g) For their part host institutions would create projects that can be built using these boards or have the option of providing additional devices.
- h) Wiring 120 and 240 volt circuits including switches, lights, breaker panel, and outlets according to the instructions given.
- i) Allow for the power source to come from any location on the board or from multiple locations.
- j) Making splices
- k) Identification of safety issues within a system
- l) Reading kilowatt hour meters and/or calculating power costs
- m) Use of a multi-meter to derive information from circuitry
- n) Cordless power screwdrivers (not drills) may be used.
- o) Project plans and score sheets will be provided to coaches either as a hard copy or electronically.

California Ag Mechanics CDE Electrical Board

Contest Procedure:

Contestants will provide the regulation board.

Host will provide:

- Wire nuts, grounding crimp sleeves/green wire nuts
- Wire. E.g.; 14 ga. THHN or NM cable

Host will specify the following as part of the contest area instructions:

- Device location
- Wiring circuit description in text (example: Switch will control the lamp, duplex receptacle is always hot), standard electrical plan, or other method.
- Project can use one or more of the boxes.

Materials (per board):

½ CC Plywood board (8 per sheet)

4 – 4" sq. Electrical boxes with ½" KO

2- ½" EMT Box connectors

30" of ½" EMT (3 – 8" long pieces; 2 – 3" long pieces)

5 – Grounding screws installed in the box

5 – ½" NM cable clamps

2 – Duplex Receptacle

1 – 20 amp, 240 Volt Receptacle

2- Lamp holder with pig tails (must be connectable with wire nuts like common light fixtures)

2 – SPST switch

2 – 3 way switches SPDP

1 – 4 way switch DPDT

1 – 20 amp GFCI Duplex Receptacle

1 – 70 amp subpanel with two 20 amp and two 15 amp circuit breakers capable of wiring the following circuits:

1. 15 amp, 120 volt
2. 20 amp, 120 volt
3. 20 amp, 240 volt

(Subpanel must have a separate grounding bus bar and an insulated neutral bus bar)

The following links are to the recommended Sub Panel and Breaker that should be used for the wiring boards:

The Sub Panel:

https://www.homedepot.com/p/Square-D-Homeline-70-Amp-2-Space-4-Circuit-Indoor-Surface-Mount-Main-Lug-Load-Center-with-Cover-HOM24L70SCP/100202333#.Ula_vVBzF8E%20ii.

The Quad-breaker:

https://www.homedepot.com/p/Square-D-Homeline-2-15-Amp-Single-Pole-1-20-Amp-2-Pole-Quad-Tandem-Circuit-Breaker-HOMT1515220CP/100150477#.Ula_vVBzF8E%202.

The load center is manufactured by Square D for the Home Depot "Homeline" brand. The breaker is also made by Square D.

The Sub Panel:

Eaton BR24L70SGP

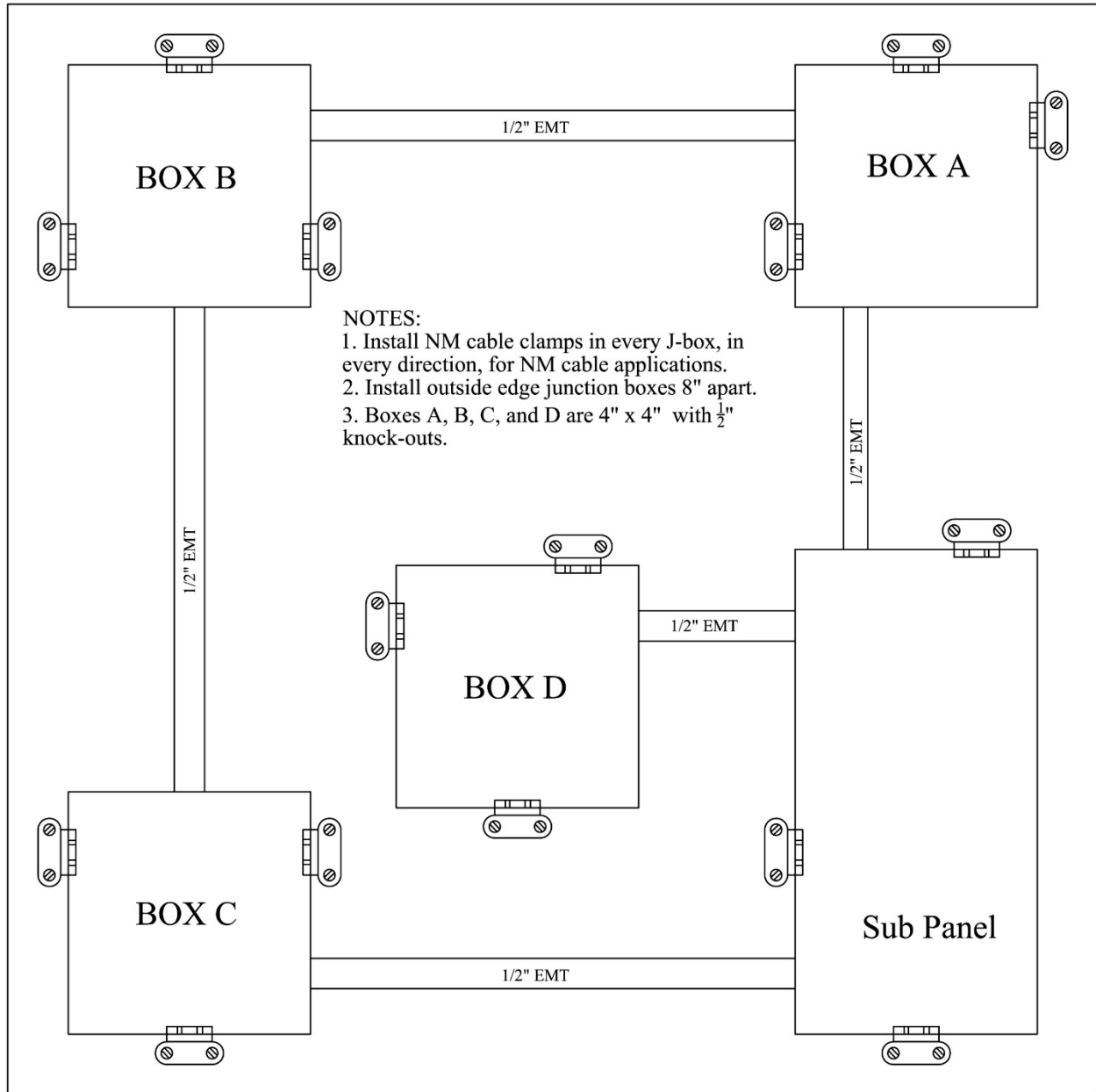
<https://www.platt.com/platt-electric-supply/Load-Centers-Aluminum-Bus-1-Phase-Main-Lug/Eaton/BR24L70SGP/product.aspx?zpid=347203>

Quadplex Breaker (15 amp single pole-outer, and 20 amp center common trip)

Eaton BQC2202115

<https://www.platt.com/platt-electric-supply/Circuit-Breakers-Residential-Quadplex-Breakers/Eaton/BQC2202115/product.aspx?zpid=354629>

Boxes should be centered on the board and placed 8" apart (approximately 12" O.C.). The distance between boxes A and D and the Sub Panel is 3" max.



E. Cold Metal and Sheet Metal Fabrication Skills

1. A small project or exercise is to be fabricated using all hand tools except for a power drill for drilling and countersinking. Tools may include:

hacksaws	taps and dies
files	countersinks
drills	layout tools
2. A cordless power drill may be used for drilling. No other power tools are allowed.
3. Project plans and score sheets will be provided to coaches either as a hard copy or electronically.

F. Electric Motors and Controls Skills

1. Knowledge and demonstrated skills to include the following:

- a) The reference for this area shall be "Electric Motors: Principles, Controls, Service and Maintenance" by Bear and Hoerner through Hobar Publications and shall be limited to the following chapters and pages:
 - (1) Unit II External Features of Motors
 - (2) Unit III Nameplate Information
 - (a) Electrical features
 - (b) Physical features
 - (c) Manufacturer's designations
 - b) Unit V Motors Classification and Operation
 - c) Unit VI Starting Systems and Circuits
 - d) Unit VII Changing Voltage, Reversing Rotation and Changing Motor Speed
 - e) Unit X Electrical Service and Control Devices
 - f) The skills to be tested shall be set up at the stations where the contestant shall be required to perform a skill relating to this area. Some examples are listed below:
 - g) Read and interpret a motor nameplate to derive the requested information.
 - h) Using dial caliper and chart, determining frame designations, shaft size, keyway size, etc.
 - i) Using the multi-meter, locate start windings and run windings in a disassembled motor.
 - j) Identify various starting mechanisms e.g. centrifugal switches, starting poles, etc.
 - k) Identify various control devices such as:
Relays (SPST, SPDT, DPDT, etc.)
Humidistats, thermostats, photo-electric switches, pressure switches, etc.
 - l) Locate the normally open and normally closed terminals of a controller.
 - m) Demonstrate how to change rotation and/or voltage on either a single phase or a three-phase motor.
 - n) Demonstrate how to wire in controls such as a relay to control a light.
 - o) Project plans and score sheets will be provided to coaches either as a hard copy or electronically.
- G. Oxyfuel Welding/Cutting Skills
- 1. Demonstrated skills to be limited to:
 - a) fusion welding with steel filler rod on 14 gage or thinner metal
 - b) bronze welding or brazing
 - c) flame cutting on material not to exceed 1/2 inch nor thinner than 3/16 inch
 - 2. Project plans and score sheets will be provided to coaches either as a hard copy or electronically.
 - 3. The use of cordless power tools is not allowed.
- H. Plumbing Skills
- 1. Kinds of plumbing materials:
 - a) steel
 - b) copper
 - c) PVC only
 - d) polyethylene
 - 2. Pipe layout calculating pipe length.
 - 3. Measure, mark, cut, ream and assemble materials and parts.

4. Types of fastening methods:
 - a) Thread
 - b) Solder
 - c) glue
 - d) flare
 - e) push in
5. The exercise could be subject to a pressure test.
6. Project plans and score sheets will be provided to coaches either as a hard copy or electronically.
7. The use of cordless power tools is not allowed.
8. Plumbing Reference: *Principals of Irrigation (3rd Edition)*, Irrigation Association.
- I. Leveling and Land Measurement Skills
 1. Exercises to be limited to:
 - a) differential leveling
 - (1) setting up a surveying instrument
 - (2) turning points
 - (3) differences in elevation
 - b) profile leveling
 - (1) setting up a surveying instrument
 - (2) profile leveling grids or lines
 - (3) cut/fill exercises
 - c) land measurement
 - (1) pacing and linear calculations
 - (2) legal land description
 - (3) reading aerial view maps
 - (4) contour line layout/interpretation
 - (5) land area calculations
 - d) GPS
 - (1) Marking waypoints or entering from coordinate data.
 - (2) Navigation to waypoints or areas
 - (3) Knowledge of common coordinate systems such as Lat/Lon
 - (4) and UTM
 - (5) Determining distance between waypoints.
 - (6) Plotting of UTM data on a graph or map to mark location or
 - (7) compute area.
 - (8) General GPS knowledge (e.g. specs, how it works).
 2. The use of cordless power tools is not allowed.
 3. Project plans and score sheets will be provided to coaches either as a hard copy or electronically.
 4. Surveying Reference: *Landscape Surveying (2nd Edition)*, Field, Publisher: Cengage.
- J. Woodworking/Carpentry Skills
 1. Demonstrate fundamental skills in the use of common woodworking tools by making a simple project or solving a woodworking/carpentry problem. The scoring in this area will emphasize the contestant's ability to layout and cut component parts rather than on completion alone.
 2. Project plans and score sheets will be provided to coaches either as a hard copy or electronically.

3. Only the following cordless power tools are allowed:
 - a) Drill
 - b) Drill driver
 - c) Jig saw
 - d) Sander
 - e) Compound miter saw

Appendix I - Ag Mechanics Contest - Minimum Equipment List**Written Test/Tool I.D.**

Clipboard
 Problem Solving
 Ruler or Scale
 Caliper (inside and outside) 4" Capacity

Surveying and Land Measurement

Clipboard
 Ruler or scale

Arc Welding Skills

Long Sleeve Welding Jacket (cotton or non-flammable material)
 Welding Helmet (shade 10)
 Leather Welding Gloves
 Chipping Hammer
 Pliers
 Wire Brush
 Mig Pliers (long nose with cutter)
 1/8" Electrode (E6010, E6011, E6013, E7018)

Combination Square

Welding Clamps

Soapstone

Electrical Wiring/Motors & Control Skills

Diagonal Cutters

Screwdrivers (Phillips and Standard)

Linesman Pliers

Long nose Pliers

Wire Strippers

Cable Rippers or NM Cable Stripper for #14 NM cable)

Crimping Tool for Bonding Grounding Crimp Sleeves

1/4" & 5/16" Nut Drivers

Multi-Meter

Electrical Board and Accessories (See Code)

Plumbing Skills

Steel Pipe Cutter

Steel Pipe Reamer

1/2" NPT Pipe Die and Pipe Die Stock

Pipe Wrenches (2)

Thread Sealing Materials

PVC Cutter (to 1")

Hacksaw

PVC Primer and Cement (small brush)

Propane Torch

Non-lead Solder (for potable water)

Flux

Flux Brush

Copper Pipe Brushes (1/2"), Emery Cloth, or Course Steel Wool

Tubing Cutter (1/2" capacity)

Flaring Tools (5/8" capacity)

Adjustable End Wrench (2)

Water Pump Pliers

Portable Pipe Vise

Clean Up Rags

Oxyfuel Skills

Welding Goggles (shade 5) (must fit over safety glasses)

Chipping Hammer

Pliers

Wire Brush

Tip Cleaner

Leather Welding Gloves

Steel Welding Rod

Brazing Rod & flux

Combination Square

Means to Mark Metal (soapstone, scribe, etc.)

Welding Clamps (2)

Woodworking/Carpentry Skills

Combination Square
Carpenters' / Framing Square
Sliding Tee Bevel
Crosscut Saw or Back Saw
Phillips Screwdriver & Standard Screwdriver
Claw Hammer
Assorted Rasps (with handles)
Finishing Supplies (sandpaper (eg. 120 grit), blocks, etc.)
Cordless Drill (3/8")
Spade Bits ¼" -1"
Twist Drills Fractional to 3/8"
Adjustable Wrench
Nail Sets
Wood Chisel Set (to 1")
Mallet
Protractor
Miter Box or Similar Tool
Counter Sink Bit
Tools for Clamping Material to Sawhorse or Workstation

Cold and Sheet Metal Fabrication

Tape Measure
Combination Square
Scribe or Scratch Awl
Cordless Drill (3/8")
Fractional Twist Drills to 3/8"
Tap and Die Set 1/4" to 3/8" NC and NF
Cutting Oil
Divider (6")
82° Countersink
Cordless Drill
Hacksaw (extra blades suggested)
Center Punch
Ball Peen Hammer
Pop Rivet Tool Capable of "Popping" 1/8 – 3/16" Diameter op rivets
File Assortment
Tools for Clamping Material to a Work Table
Straight Snips

AGRICULTURAL MECHANICS FAIR

Revised 6/2024

Purpose and Standards

The FFA Agricultural Mechanics Fair recognizes the FFA members who are studying the application of mechanical principles and technology in their agriculture-based projects.

Goals

- Provide students an opportunity to achieve local and state recognition for their large agricultural mechanics efforts and projects.
- Reinforce skills and principles learned in agriculture courses.
- Provide an opportunity for students to demonstrate and display their agricultural mechanics projects.
- Provide recruiting and promotional opportunities for agricultural education programs.

Foundation Standards: 1.0 Academic (1.1 Math, 1.2 Science), 2.0 Communications (2.1-2.4), 4.0 Technology, 5.0 Problem Solving and Critical Thinking, 6.0 Health and Safety, 7.0 Responsibility and Flexibility, 8.0 Ethics and Legal Responsibilities, 9.0 Leadership and Teamwork (Team Projects), 10.0 Technical Skills, 11.0 Demonstration and Application.

Pathway Standards: All pathway standards (A-G) are addressed according to specific agricultural mechanics projects.

Classes

Class	Individual Points	Team Points
Exhibit	100	300
Interview	100	300
Show Book	50	150
TOTAL	250	750

See notes under rules.

Tie Breaker

Tie Breakers will be broken on the Interview Score. If a tie still exists, a panel of the judges will determine the winner. All competitors will compete in one contest, there is no "A and B Contest" with one entry per person or pair.

General Rules:

- A. Tie Breakers will be broken on the Interview Score. If a tie still exists, a panel of the judges will determine the winner. All competitors will compete in one contest, there is no "A and B Contest" with one entry per person or pair.
- B. An "Entry" will include the project, a show book (described below) and one or two members who completed the project and compiled the Show Book. Projects that were built as a group project will have no more than two members representing the effort. Individually constructed

projects may be represented by one or two chapter members if the second member contributes to the Show Book. The competing students shall be the principal builder(s) of the entry as well as the author(s) of the Show Book. Students will be in dress uniform.

- C. Students may display tools and other equipment used in the construction of their project that add value to the interview.
- D. The "Team" score will be the combined scores of three separate "Entries" from one chapter. Entries will compete individually, and their scores combined for a high team ranking.
- E. Entries in the Ag Mechanics Fair will be considered "large projects" by the advisor and will have a stated value of \$500 or more in their Show Book to be considered. Items shall be of the type and kind constructed in a California Ag Mechanics shop; home-built projects are allowed. Entries shall have been completed in the previous 12 months.
- F. Seniors will be eligible to compete until June 30th following their graduation.
- G. Entries MAY be broken into the following Groups for judging:
 - Group 1: Farm Implements
 - Group 2: Implements of Husbandry
 - Group 3: Trailers and Flatbeds
 - Group 4: Home and Farmstead Items
 - Group 5: BBQ's and Food Processing
 - Group 6: Repaired Equipment
- H. The Judging Timeline will be as follows:
 - a. Up to 10 minutes for the judge(s) to examine the project. The members will be in the immediate area during this time to answer questions about the project.
 - b. Up to 10 minutes will be used for the interview. Contestants will point out features of their project and their show book during this time. This will be in the area of the Entry; a table may be used to hold the Show Book.
 - c. Up to 5 minutes for the judge(s) to examine the show book, mark scores and if necessary, re-examine the project and ask any follow-up questions.
- I. The Show Book shall consist of a 1" Ring Binder with common slip sheets used to organize not more than 20 pages of white paper. Typed 8.5"x 11" pages will not be smaller than 12 font and will maintain a 1" margin. An electronic copy of the showbook will be emailed to the state finals host on the Monday prior to the state finals contest. The showbook will be judged prior to the project. It shall be on display prior to and after judging. Inside the binder, there will be:
 - a. Cover and Title Page will be on the front of the Show Book, including name(s) of contestants, Chapter, Title of the Project and the Group that it will be judged in.

- b. Introduction Page that includes the need for the project, its primary features, who the builder(s) was, who financed the project and how long the project took to complete. Limited to one page.
 - c. A Budget and/or Actual Costs page that includes a Bill of Materials; limited to one page.
 - d. Measured Drawings or Sketches that may be CAD or hand drawn. Limited to 3 pages with any fold out page(s) counting as one page each.
 - e. Steps of Construction pages that include pictures and a narrative recounting the construction of the project, the tools used, safety considerations, acknowledgements to assisting parties, issues that were resolved and any pertinent facts regarding construction. Limited to five pages.
 - f. Addendum Picture and Description pages may be added for clarification. These are to be labeled "Addendum #1" etc. and will have a typed description of not more than 25 words on each page. Limited to five pages.
 - g. Professional Resume Certification pages may include a professional resume or any certification a student may have earned during their time as a student. Limited to five pages.
- J. The Interview will commence with introductions and students should be ready to initiate the discussion with name, chapter, entry name and year in school. The student may refer to the Show Book for clarifying their answers. The Judge will then begin their line of inquiry that may include:
- a. Questions about tool operation and shop safety protocol followed
 - b. Design and Build questions
 - c. Paint and Finish Questions
 - d. Questions determining familiarity with Entry operation
 - e. Questions about costs, donations, materials, capacities etc.
 - f. Hours of labor invested and people or entities who assisted

Score Sheet

The Exhibit (100 points)	Possible
General Workmanship and Quality Fit and Finish Appropriate sanding, grinding, painting	40
Practicality of Design and Construction This is a safe project. This is useful.	20
Square, True, Flush, Plumb and/ or Correct Attention to detail; Eye appeal	20
Quality of Cuts, Welds, Joints, Fasteners, Fit Up, Wiring etc. Measurements match the plans; weld skill	20
The Interview (100 points)	
Introductions and Overview	10
Knowledge of the Project and Construction	40
Awareness of Safety and Tool Use	10
Technical awareness and attention to detail	20
Speaking Voice, Eye Contact and Demeanor	20
The Show Book (50 points)	-
Clear writing that is easy to read Free of typos and grammar errors The narrative is complete and logical	20
Attention to Detail All key elements are present The book clearly explains how the project was constructed	20
Follows the outline from above Page and Word count	10
Total Score	250

AGRICULTURAL PEST CONTROL

Revised 06/2024

Purpose and Standards

The purpose of the Agricultural Pest Control Career Development Event (CDE) is to provide students with new insights into the science and practice of pest management with a specific emphasis on the California Agricultural Industry.

Pests are organisms that damage or interfere with desirable plants in our fields and orchards, landscapes, or wildlands, or damage homes or other structures. A pest can be a plant (weed), vertebrate (bird, rodent, or other mammal), invertebrate (insect, tick, mite, or snail), nematode, pathogen (bacteria, virus, or fungus) that causes disease, or other unwanted organism that may harm water quality, animal life, crop production, or other parts of an ecosystem.

Participants will accurately identify and apply the correct scientific and common name to pests from the categories of Gastropoda, Arachnida, Insecta, and Symphyla. Additionally, participants will give an oral presentation to a panel of industry experts explaining specimens from the categories of beneficial insects, quarantine or invasive insects, and vertebrate pests.

Participants of the Agricultural Pest Control CDE strengthen their leadership, observation, analysis, critical thinking and communication skills while also developing and exercising a competitive team spirit and building an awareness of career opportunities within the pest management industry.

Foundation Standards: 1.2, 1.2d, 2.0, 2.3, 2.4, 2.41.1, 2.41.8, 5.0, 5.1, 5.3, 9.0, 9.1, 9.2, 9.3, 9.4, 9.5, 9.6, and 11.0.

Agricultural Pathway Standards: C C2.1, C2.2, C6.1, C11.1, C12.1, C12.2, and C12.3

Contestants

Teams shall consist of three or four members. The scores of the three highest team members shall be used for the team score. All team members are eligible for individual awards.

Classes

Class	Individual Points	Team Points
Objective-Type Examination	900	2700
Oral Presentations Total	600	1800
Beneficial	200	
Quarantine/Invasive	200	
Vertebrate Pest	200	
Possible Contest Total	1350	4500

Tie Breaker

1. The team or individual scoring the highest score(s) in oral presentations will be the winner.
2. If a tie still exists, the total score of the individual or team will be used to determine the high individual or team.

3. If a tie still exists, the contestant with the highest individual Objective Exam score will be used to determine the high individual or team.

Sub-contest Awards

Sub-contest awards will be given for high teams and individuals in the following areas: Exam, Oral Presentation (based on combined beneficial, quarantine/invasive & vertebrate scores).

Rules

- I. This contest shall consist of two parts: an objective type examination on 30 insects of California and oral presentations of two insects and one vertebrate pest. Up to three specimens in the Objective-Type Exam can display the actual crop damage.
- II. The pest will be displayed in the most appropriate mount available. As many growth stages of the insect will be shown as is possible, including at least the stage most commonly seen in nature. No pictures are to be used.
- III. Only common names and orders will be used in the contest and must be used as listed in the Code to receive credit. Scientific names are included only as an aid to help in identification study prior to the contest.
- IV. Objective Type Examination
 - A. The time allowed shall be 30 minutes for identification on a rotation basis.
 - B. Contestants must check the appropriate places on the scorecard for all destructive stages of the pest. Mouth parts of the most destructive stage will be indicated by the contestant.
 - C. Both common name and order must be written by the contestant as listed in the Curricular Activities Code for points to be given.
 - D. Next to each specimen a list of 5 potential hosts numbered 1-5 to be entered on the scan form.
 - E. No partial points will be given on scorecard for incomplete answers or improper identification.
 - F. Scoring for Objective-Type Examination will be as follows: (Note: Each area will be scored independently. For example: If common name is incorrectly written, points will be given for correctly identifying order, destructive states, etc.)
 1. Common Name (10 Points)
 2. Order (5 Points)
 3. Destructive Stage(s) (5 Points)
 4. Mouth Part(s) (5 Points)
 5. Host(s) (5 Points)
 - G. A total of 30 points can be given for each correctly identified specimen.
 - H. No duplicate specimens may be used in the Objective-Type Exam. For example, "Cabbageworm" can only be used once in the exam.

List from which 30 pests or insects will be chosen: (Common names only will be used in the contest).

I. Class: Gastropoda

Order: Stylommatophora - Snails & Slugs
Brown Garden Snail – *Helix aspersa*

II. Class: Arachnida

Order: Acari - Mites
Twospotted Spider Mite - *Tetranychus urticae*
Citrus Red Mite - *Panonychus citri*

III. Class: Insecta

Order: Orthoptera - Grasshoppers, Crickets, Cockroaches.

Grasshopper - Acrididae (family)
Field Cricket - *Gryllus* spp.
Katydid - Various spp.
American Cockroach – *Periplaneta Americana*
German Cockroach – *Blattella germanica*
Oriental Cockroach – *Blattella orientalis*

Order: Dermaptera – Earwigs
European Earwig - *Forficula auricularia*

Order: Isoptera – Termites
Termite – Various spp.

Order: Mallophaga - Chewing Lice
Chicken Body Louse – *Menacanthus stramineus*

Order: Thysanoptera – Thrips
Thrip - Thripidae (family)

Order: Hemiptera – True Bugs, Aphids, Scale, Leafhoppers, Mealybugs

Lygus Bug – *Lygus Hesperus*
Squash Bug - *Anasa tristis*
Green Stink Bug – *Acrosternum hilare*
Brown Marmorated Stink Bug – *Halyomorpha halys*
Bagrada Bug – *Bagrada hilaris*
Glassy-Winged Sharpshooter – *Homalodisca vitripennis*
Leaf-footed Bug – *Leptoglossus phyllopus*
Beet Leafhopper – *Circulifer tenellus*
Grape Leafhopper - *Erythroneura elegantula*
Cabbage Aphid - *Brevicoryne brassicae*
Spotted Alfalfa Aphid – *Therioaphis maculata*
Rose Aphid - *Macrosiphum rosae*
San Jose Scale – *Diaspidiotus perniciosus*
California Red Scale - *Aonidiella aurantii*
Brown Soft Scale - *Coccus hesperidum*
Black Scale - *Saissetia oleae*
Cottony Cushion Scale - *Icerya purchasi*
Grape Mealybug- *Pseudococcus maritimus*
Whitefly - Aleyrodidae (family)

- Citricola Scale - *Coccus pseudomagnoliarum*
- Bean Aphid - *Aphis fabae*
- Green Peach Aphid - *Myzus persicae*
- Longtailed Mealybug - *Pseudococcus longispinus*
- Western Boxelder Bug – *Boisea rubrolineata*
- Order: Lepidoptera - Butterflies and Moths
 - Cabbageworm – *Pieris rapae*
 - Alfalfa Caterpillar - *Colias eurytheme*
 - Western Grapeleaf Skeletonizer - *Harrisina brillians*
 - Indian Meal Moth - *Plodia interpunctella*
 - Navel Orangeworm - *Amyelois transitella*
 - Oriental Fruit Moth - *Grapholita molesta*
 - Codling Moth - *Laspeyresia pomonella*
 - Peach Twig Borer - *Anarsia lineatella*
 - Tomato Hornworm - *Manduca spp.*
 - Corn Earworm – *Helicoverpa zea*
 - Alfalfa Looper - *Autographa californica*
 - Cutworm - Noctuidae (family)
 - Western Yellowstriped Armyworm - *Spodoptera praefica*
 - Saltmarsh Caterpillar - *Estigmene acraea*
 - Diamondback Moth – *Plutella xylostella*
 - Obliquebanded Leafroller – *Choristoneura rosaceana*
 - Omnivorous Leafroller – *Platynota stultana*
- Order: Coleoptera - Beetles and Weevils
 - Wireworm - Elateridae (family)
 - Alfalfa Weevil - Hypera
 - Bean Weevil - *Acanthoscelides obtectus*
 - Darkling Beetle – *Eleodes sp.*
 - Flea Beetle – *Epitrix cucumeris*
 - Granary Weevil - *Sitophilus granarius*
 - Sawtoothed Grain Beetle - *Oryzaedhilus surinamensis*
 - Shothole Borer – *Scolytus rugulosus*
 - Western Spotted Cucumber Beetle – *Diabrotica*
 - Western Striped Cucumber Beetle – *Acalymma trivittata*
 - Green Fruit Beetle – *Cotinis texana*
 - Tenlined June Beetle – *Polyphylla decemlineata*
- Order: Hymenoptera - Ants, Bees, Wasps
 - Argentine Ant – *Linepithema humilis*
 - Harvester Ant - *Pogonomyrmex sp.*
 - Southern Fire Ant – *Solenopsis xyloni*
- Order: Diptera – Flies
 - House Fly - *Musca domestica*
 - Horse Fly - *Tabanus spp.*
 - Stable Fly - *Stomoxys calcitrans*

Walnut Husk Fly – *Rhagoletis completa*
 Mosquito – *Culex* spp.
 Spotted Wing Drosophila – *Drosophila suzukii*
 Biting Midge – *Culicoides variipennis*

Order: Siphonaptera – Fleas

Flea - Pulicidae (family)

Order: Zygentoma – Silverfish, Fishmoths, Firebrats

Silverfish – *Lepisma saccharina*

IV. Class: Symphyla

Order: Symphyla – Symphylans

Garden Symphylans – *Scutigera immaculate*

- I. Common Host: Contest coordinator must select five possible principle hosts from the list below with one being an actual host. Contest hosts must use the exact wording of the principle hosts as listed below. Only the selections below will be used for the actual crop damage when the insect is not present.

Brown Garden Snail	Avocado, Citrus, Strawberry
Twospotted Spider Mite	All Crops
Citrus Red Mite	Citrus
Field Cricket	Cotton, Grain
Grasshopper	All Crops
Katydid	Citrus
American Cockroach	Fermenting Fruits
German Cockroach	Food Preparation Areas
Oriental Cockroach	Decaying Organic Matter
European Earwig	All Crops
Termite	Structural Pest
Chicken Body Louse	Poultry
Thrip	Ornamental, Tomatoes, Onions, Peppers, Citrus
Lygus Bug	Alfalfa, Cotton, Beans
Squash Bug	Cucurbits
Green Stink Bug	Peaches, Grain, Almonds
Bagrada Bug	Cole Crops
Brown Marmorated Stink Bug	Fruit, Fruiting Vegetable Crops
Glassy-Winged Sharpshooter	Grapes
Black Scale	Almonds, Citrus, Fruit Trees, Pistachios
Brown Soft Scale	Citrus
Cabbage Aphid	Cole Crops
California Red Scale	Citrus
Cottony Cushion Scale	Citrus, Ornamentals
Grape Leafhopper	Grapes
Rose Aphid	Roses
San Jose Scale	Fruit Trees, Walnuts, Almonds
Spotted Alfalfa Aphid	Alfalfa
Beet Leafhopper	Tomatoes
Whitefly	Cucurbits, Tomatoes, Lettuce

Grape Mealybug	Grapes
Citricola Scale	Citrus
Bean Aphid	Beans, Celery
Green Peach Aphid	Vegetables, Ornamentals
Longtailed Mealybug	Nursery Stock, Ornamentals
Obliquebanded Leafroller	Cherry, Peach
Omnivorous Leafroller	Avocado, Cotton, Grapes
Western Boxelder Bug	Almonds, Grapes, Peach
Alfalfa Caterpillar	Alfalfa, Beans
Alfalfa Looper	Alfalfa, Cotton
Codling Moth	Pears, Walnuts
Corn Earworm	Corn, Tomatoes, Peppers, Lettuce, Cotton
Cutworm	Beans, Cole Crops, Corn, Cotton, Tomatoes
Cabbageworm	Cole Crops
Indian Meal Moth	Grain, Seeds, Stored Nuts
Navel Orangeworm	Almond, Pistachios, Walnuts
Oriental Fruit Moth	Cherry, Peach, Plum
Peach Twig Borer	Peaches, Almonds
Saltmarsh Caterpillar	Beans, Cole Crops, Lettuce, Celery
Tomato Hornworm	Tomatoes
Western Grapeleaf Skeletonizer	Grapes
Western Yellowstriped Armyworm	Cotton, Alfalfa
Diamondback Moth	Cole Crops
Alfalfa Weevil	Alfalfa
Bean Weevil	Beans
Darkling Beetle	Cole Crops, Lettuce, Pistachios
Flea Beetle	Lettuce, Pepper, Tomatoes
Granary Weevil	Grain
Sawtoothed Grain Beetle	Grain
Shothole Borer	Avocado, Cherry, Peach, Plum
Western Spotted Cucumber Beetle	Lettuce, Cole Crops, Beans, Potatoes, Cucurbits
Western Striped Cucumber Beetle	Cucurbits
Wireworm	Tuber Roots, Corn, Cotton
Green Fruit Beetle	Peach, Plum
Tenlined June Beetle	Almonds
Argentine Ant	Citrus
Harvester Ant	Seeds
Southern Fire Ant	Almonds
Horse Fly	Horses, Cattle
House Fly	Rotting Vegetables, Livestock, Manure
Stable Fly	Livestock
Mosquito	Warm Blooded Animals
Spotted Wing Drosophila	Berries, Cherries
Walnut Husk Fly	Walnut
Biting Midge	Livestock
Flea	Warm Blooded Animals
Silverfish	Starches, Sugar, Paper
Garden Symphylans	Cole Crops, Peppers, Tomatoes

V. Oral Presentations

- A. Oral presentations will be given by each contestant; a maximum time limit of three minutes will be allowed for the oral presentation of each of three specimens which will consist of one beneficial insect, one quarantine insect/invasive, and one vertebrate pest. The contestant will have 30 seconds to view the specimen and the time will begin; after two minutes, the judge will stop the presentation if not complete at that time. Within this 3 minute time frame, the judge may ask questions.
- B. Prior to the contest, pests for oral presentations will be selected by the judges and not by the contestants.
- C. One pest will be selected from each of the three categories containing six pests each, 18 total. The categories are beneficial, quarantine/invasive, and vertebrate pests.

COMMON NAME

SCIENTIFIC NAME

Beneficial:

Honey Bee

Apis mellifera

Lacewing

Chrysopa sp.

Convergent Lady Beetle

Hippodamia convergens

Assassin bug

Zelus spp.

Mantid

Mantis religiosa

Big Eyed Bug

Geocoris spp.**Quarantine/Invasive:**

Japanese Beetle

Polillia japonica

Mediterranean Fruit Fly

Ceratitis capitata "A"

Light Brown Apple Moth

Epiphyas postvittana

European Grapevine Moth

Lobesia botrana

Asian Citrus Psyllid

Diaphorina citri

Red Imported Fire Ant

*Solenopsis invicta***Vertebrate Pests:**

Norway Rat

Rattus norvegicus

Vole (Meadow Mouse)

Microtus spp.

Pocket Gopher

Thomomys spp.

California Ground Squirrel

Otospermophilus beecheyi

Deer

O. hemionus columbianus

Jackrabbit

Lepus californicus

- D. Scoring will be as follows: The contestant should have a general knowledge of the insect which would include such things as:
1. Beneficial insects: life cycle, habits, hosts, beneficial importance.
 2. Quarantine/invasive insects: principle life cycle, habits, hosts, preventative measures taken, important, procedure taken if quarantine insect is found in California and control measures to be taken.
 3. Vertebrate pests: life cycle, habits, habitat, damage and control measures.
 4. Scoring of presentations:
(Note: no points for improper ID)

a. Subject matter	60%
b. Logic and force	10%
c. Bearing and address	10%
d. Questions	20%

VI. References

- A. Borrer and Delong: Introduction to the Study of Insects, 1963.
- B. Comstock and Merrick: Manual for the Study of Insects.
- C. Essig: Insects of Western North America.
- D. Fernald: Applied Entomology.
- E. Fichter, George S.: Insect Pests, A Golden Nature Guide.
- F. Kono and Papp: Handbook of Agricultural Pests.
- G. Metcalf: Fundamentals of Insect Life.
- H. Metcalf and Flint: Destructive and Useful Insects.
- I. Sweetman: Biological Control of Insects.
- J. USDA 1962 Yearbook of Agriculture, Insects
 - 1. References used by judges include only latest published recommendation on pest control made by U.C. Extension Service and Experiment Station as summarized and presented by U.C. Entomology Department who will consider and include pest control recommendation throughout the State of California.
 - 2. Common Names of Insects: 1978 revisions, Douglas W.S. Sutherland, Chairman, Committee on Common Names of Insects, Entomological Society of America. Source for Purchasing Insects: Combined Scientific Supplies, P.O. Box 1446, Fort Davis, Texas 79734.
- K. VEP, Pest ID Kit (Cal Poly)
- L. Wildlife Pest Control Around Gardens and Homes, Cooperative Extension, University of California, Publication #21385. See your local Cooperative Extension for more information on California Pests.
- M. University of California, Davis IPM Website: www.ipm.ucdavis.edu

Sample Scorecard:

Common Name

Order

Destructive Stage(s)	Mouth Part(s)	Principle Host
Larva Nymph Adult Adult Female	Chewing Rasping Sucking Sponging	Cotton Pistachio Almond Grape Tomato

Common Name

Order

Destructive Stage(s)	Mouth Part(s)	Principle Host
Larva Nymph Adult Adult Female	Chewing Rasping Sucking Sponging	Fermented Fruits Decaying Organic Matter Grains Stored Nuts All Crops

Common Name

Order

Destructive Stage(s)	Mouth Part(s)	Principle Host
Larva Nymph Adult Adult Female	Chewing Rasping Sucking Sponging	Onions Garlic Beans Cole Crops Lettuce

AGRICULTURAL SALES

Revised 6/2024

Purpose and Standards

The purpose of the Agriculture Sales Career Development Event is to provide an individual with the basic skills to take advantage of the career opportunities offered in the agricultural sales field. Sales are an essential part of a market economy. Agricultural products benefit from sales skills, both for inputs for production and the marketing of the products.

The California State Standards addressed by this career development event include the following:

Foundation Standards: History – Social Science: 12.2.2 – 12.2.7; 12.2.10; 12.4; 12.4.3. Reading: 2.1; 2.3; 2.4; 2.7. Writing: 1.2; 1.5; 2.6. Listening & Speaking: 1.1; 1.7; 1.8; 1.14; 2.2; 2.3; 2.4.

Career Planning & Management: 3.1; 3.5. Technology: 4.2; 4.3. Problem Solving: 5.1 – 5.3.

Responsibility & Flexibility: 7.1 – 7.3; 7.5; 7.6. Ethics & Legal Responsibilities: 8.3. Leadership &

Teamwork: 9.1 – 9.6. Technical Knowledge & Skills: 10.2.

Pathway Standards: Each year the practicum and marketing presentation will focus around one of the seven industry standards. Those pathway standards will vary as applicable to that industry sector being addressed in the given year.

Agricultural Pathway Standards: A7.0-A7.5; A8.0-A8.3.

Objectives

The objective is to develop the skill sets necessary to be successful in sales. These would include the following:

- I. Communication Skills
 - A. Verbal Communication.
 - B. Written Communication.
 - C. Interactive Communication - to be able to listen and question in order to gather information.
- II. Product Knowledge
 - A. Features and benefits of a product.
 - B. Identifying potential customer objections.
 - C. Knowledge of proper product use.
- III. Sales Process
 - A. Identifying prospective customers through marketing data.
 - B. Developing an approach that introduces your product to your prospective customer.
 - C. Develop a sales call that determines and addresses customer's needs and objections.
 - D. Attempt trial closes to confirm customer interest.
 - E. Understand the basic business structure necessary to sell and deliver a product.
 - F. Attempt to close the sale by asking the customer to make a buying decision.
- IV. Maintaining Customers
 - A. Establish and build customer confidence in you and your product.
 - B. Address customer complaints including:
 1. Defective merchandise.
 2. Maintain customer contact and place additional orders for sales.
 3. Review product performance.

Contestants

Teams consist of four members, with all four individual scores counting as the team score. All team members are eligible for individual awards.

Classes

The agricultural sales contest will consist of three parts: an individual written exam, an individual sales activity, and a team activity. Individual scores will be comprised of the written exam and individual sales activity. The team score will be comprised of the team activity and all individual scores. All team members will participate in all components of the contest. Contest coordinators should make every effort to allow coaches, parents, guests, and student contestants to observe the activities of the contest as described below. There will be no contact between participants and other observers.

Class	Individual Points	Team Points
Individual Sales Activity	150	600
Individual Written Test (30 questions maximum)	100	400
Team Activity	N/A	150
TOTAL	250	1,150

Tie Breaker

Should a tie occur in the individual or team scores, the tie will be broken by:

1. The highest sales activity score.
2. If the tie cannot be broken using the individual sales activity score, then the highest written exam score will be used.
3. If a tie still exists, the highest team activity score will be used to break the tie.

Sub-contest Awards

Sub-contest awards will be given for high teams and individuals in the following areas: sales activity, written exam, and for the team sales activity.

Rules

The product(s) utilized in the event and activity examples will be announced by the California Department of Agriculture State Staff by October 1 each year on the CATA Webpage for the Curricular Code. Provided product information may include appropriate company information and a price list(s). Prior examples from the National Contest can be found on the National CDE website for Ag Sales for team use and practice before state finals, and it also serves as a resource/example for non-state final competitions.

- V. Individual Written Exam (100 points per team member – 400 points total)
 - A. The written exam is designed to evaluate an individual's knowledge of sales skills. The listed resources (at the end of this document) will be used as a basic resource for the test bank exam questions.
 - B. The test bank will contain 200 exam questions with an answer key and are available for download via the CATA Curricular Code website.

- C. The test bank will be created and approved by the “Top 5” California Agricultural Sales Coaches from the rotation year. It will be revised every three years between June 1st and December 31st of the third calendar year cycle for use beginning January 1st of the new three-year cycle.
 - D. Five test questions will be created annually to be an option for use in the written test related to the agricultural sales product. The five questions will be created by the company who owns the product to be sold for that academic year.
 - E. The test will not exceed thirty (30) questions and forty-five (45) minutes. The questions will consist of multiple choice, fill in the blank, short answer and essay format. Point values will be assigned to each question based on the skill level of the question.
 - F. Team members will work individually.
- VI. Team Activity - 150 points
- A. Each participant will be allowed to bring a one-inch binder to the team activity containing the provided product information and any other information gathered by the participant.
 - B. Team members will work together to demonstrate teamwork, group dynamics, problem solving, data analysis, decision making, and oral communications.
 - C. The following information will be provided to the team at the event as if they were a group of salespeople working together to develop the pre-call planning prior to conducting a sales call.
 - 1. Product information (before event)
 - 2. Profiles of different customers
 - 3. The team will be provided with paper and writing utensils. No presentation equipment such as laptops, flipcharts or dry erase boards will be allowed.
 - D. The team will then develop the strategy (for the product(s) provided prior to the event) necessary to sell the product(s) in a face-to-face sales call. This strategy should include but not be limited to:
 - 1. Determining potential customer needs and wants.
 - 2. Identify features and benefits of the product(s) that address the customer’s needs and wants.
 - 3. Identify potential customer objections and prepare to address them.
 - 4. Identify possible related/complimentary products and their suggestive selling strategies.
 - 5. Develop information gathering questions to be utilized in clarifying the customer’s needs and wants.
 - E. Teamwork and involvement of team members will be judged during this event. Students are expected to justify their decisions based on selling principles.
 - F. The team will be given twenty (20) minutes to analyze the information given and develop a presentation to provide the information listed above. During this twenty (20) minute period, the team will be judged using the team activity scorecard found in this chapter.
 - G. At the conclusion of the twenty (20) minutes, the team will present to the judges who are acting as the team’s immediate supervisors. The presentation will be no longer than ten (10) minutes. At the conclusion of the presentation, the judges will have ten (10) minutes to ask questions of all team members. The questions will be taken from all aspects of the team event.
- VII. Individual Sales Activity – (150 points per team member – 600 points total)
- A. Information and product(s) from the team activity will be used in the individual sales activity. (Individual sales activity will be conducted **AFTER** the team activity.) Participants will directly sell the product(s) to judge(s). The judge(s) will fit one of the customer profiles

identified in the team pre-call planning activity. The judge(s) will act as a real customer which may include not buying the product. Participants will have to establish rapport with the customer and ask probing questions to ensure they meet the customer's needs.

- B. Participants will have ten (10) minutes to interact with the judge(s). Participants are allowed to use their one-inch product information binder during individual activity.

VIII. References and Resources

- A. This list of references is not intended to be all-inclusive. Other sources may be utilized, and teachers are encouraged to make use of the very best instructional materials available. The following list contains references that may prove helpful during event preparation.

- 1. CRISP Publications, 1200 Hamilton Court, Menlo Park, CA 94025-1427.
1-800-442-7477. FAX 650-323-5800.

Professional Selling, Rebecca L. Morgan, ISBN 0-931961-42-4

Sales Training Basics, Elwood N. Chapman, ISBN 1-56052-119-8

Closing, Virden J. Thorton, ISBN 1-56052-318-2

Ditzenberger and Kidney, Selling-Helping Customers Buy, South-Western Publishing Company, Cincinnati, Ohio, 1992, 1-800-543-7972, ISBN 0538605316.

Gerald L. Manning, Selling Today, Prentice Hall, ISBN-13-978-0132109864.

IX. Scorecards to be Used

- A. Team Event Scorecard
- B. Individual Sales Call Scorecard

Agricultural Sales CDE
Team Event Scorecard

Chapter Name: _____

Judge Name: _____

Skills	Points Possible	Points Earned
How well did each team member participate by analyzing and providing input to the solution?	8	
How well did each team member communicate with the rest of the team members?	10	
How well did each team member demonstrate effective listening skills?	10	
How well did each team member respect the input of other team member?	9	
What level of knowledge did the team have of the products they are selling?	12	
Did the team accurately analyze all the information for each customer type?	12	
Did the team identify customer needs and wants and prepare quality questions to help clarify the customer's needs and wants?	12	
Did the team identify products for each customer type based on their product's features and benefits and the customer's anticipated wants and needs?	15	
How well did the team identify potential objections for each customer type and how to address them?	12	
Were complimentary/related products also identified?	10	
Were the decisions made by the team based on sound sales principles using the information they were given?	12	
Was the presentation delivered professionally?	8	
Did all team members participate in the presentation?	8	
Were all the questions answered correctly by all team members?	12	
TOTAL	150	

Agricultural Sales CDE
Individual Sales Call Scorecard

Student Name: _____ Chapter Name: _____

Judge Name: _____

Skills	Points Possible	Points Earned
Did the sales person identify themselves with a good first impression?	5	
Did the student ask questions/dialogue in an attempt to build personal rapport with you?	8	
Did the student actively listen to your personal comments when you answered?	8	
Did the student use information from your answers to further establish personal rapport?	8	
Did the student ask questions to learn about your business?	10	
Did the student listen to the answers about your business you provided?	10	
Did the student confirm and discover your needs and wants?	12	
Did the student apply the features/benefits of their product to your needs/wants?	16	
Did the student allow you to participate in matching your needs/wants to their product features?	15	
Did the student effectively use trial close (gain acceptance on a point, identify customers willingness to buy or a closing opportunity)?	11	
Did the student listen to and clarify your objections?	14	
Did the student apply and discuss the features/benefits of their product to address your objections?	13	
Did the student clearly close or attempt to close the sale?	20	
TOTAL	150	

AGRICULTURAL WELDING

Revised 12/2023

Purpose and Standards

To evaluate the contestant's manipulative skills, general knowledge and professional presentation as these correlate to his/her preparation for employment in the broad field of welding (agricultural, industrial, or other).

Foundation Standards: Mathematics Algebra, 10, 13, 15 and Geometry 9, 10, 11. Technology 4.1, 4.2, 4.6. Problem Solving and Critical Thinking 5.1. Health and Safety 6.2, 6.4, 6.5. Ethics and Legal Responsibilities 8.3. Leadership and Teamwork 9.1, 9.2, 9.3.

Agricultural Mechanics Pathway Standards: B1.1, B1.2, B3.1-B3.3, B5.1-B5.5, B7.1-B7.5, B8.1-B8.4, B9.1-B9.7.

Scope of the Contest

Contestants will demonstrate their ability to perform jobs and skills that are reflective of those required in the welding industry. Specific competency areas will include the following:

Safety	*Shielded Metal Arc Welding (SMAW)	*Oxy Fuel Welding (OFW)
Measurement	*Gas Metal Arc Welding (GMAW)	*Cutting Processes
Blueprint Reading	*Flux Core Arc Welding (FCAW)	Weld Testing/Inspection
Project Layout	*Gas Tungsten Arc Welding (GTAW)	

**A minimum of three processes will be incorporated into the applied portion of the contest.*

The contest will consist of a four way rotation including the following events or contest areas:

- Welding Application – Hands on component
- Written Test – General knowledge component
- Weld Testing/Inspection – Evaluation/quality control component
- Job Portfolio/Application – Professional presentation component

Contestants

The team shall consist of three or four members. The scores of the three highest team members shall be used for the team score. All team members are eligible for individual awards.

If the number of teams eligible to compete at the State Finals contest exceeds the number the Contest Hosts feels they can safely accommodate, the State Finals Contest Host will hold a preliminary round and a final round. The preliminary round will be held Friday and the final round will be held the following day. All contestants will compete in the preliminary round, which will consist of the Written Test class with the top combined team scores propelling them into the final round.

The tiebreaker will first be the contestant's individual scores beginning with highest individual, then second highest and so on. If a tie still persists, the welding symbols questions of the test will be used.

The contest host will announce the number of teams moving on to the final round no less than 14 days before the State Finals contest. Preliminary round scores will be added to the final round scores on Saturday.

Classes

Class	Individual Points	Team Points
Welding Application	200	600
Written Test	100	300
Weld Testing/Inspection	50	150
Job Portfolio/Application	50	150
Total	400	1200

Breaking of Ties

1. In the Agricultural Welding Contest, individual or team ties will be broken on the basis of the highest individual or team score using the written test score.
2. If a tie still exists, the individual or team Welding Application will be used to determine the high individual or team.

Sub-contest Awards

Sub-contest awards will be given for high teams and individuals in the following areas: Welding Application, Written Test, Weld Testing/Inspection, and Job Portfolio/Application.

Requirement of Host Institution

See equipment supplied by the host committee under Event Rules

Event Rules

- I. Each qualifying contestant will compete in all four events.
- II. Equipment supplied by the host committee:
 - A. All necessary welding machines
 - B. All consumables will be provided and contestants are required to utilize the provided materials
 - C. All instructions and procedure sheets with drawings
 - D. All materials for the host committee and judges
 - E. A four-function calculator for the Job Application rotation
- III. Equipment supplied by the contestant:
 - A. All PPE (Personal Protective Equipment)
 1. Safety glasses (approved ANSI Z87 with side-shields)
 2. Hearing and or ear protection
 3. Welding helmet/face shield/goggles with appropriate #5 - #7 filter lenses for the OFC and OFW processes
 4. Welding helmet with appropriate #10 - #12 filter lenses for the AW processes
 5. Leather gloves with gauntlets
 6. Appropriate leather welding jacket
 7. Leather boots
 - B. Tools
 1. Steel tape measure
 2. Steel ruler
 3. Combination square
 4. Rafter square/speed square
 5. Try square
 6. Depth gauge
 7. Fillet Gauge
 8. Calipers

9. Protractor
 10. Compass
 11. Magnetic Square
 12. Soap Stone
 13. Chipping hammer
 14. Wire steel brush
 15. Locking welding clamp
 16. Locking pliers
 17. Adjustable end wrench
 18. Diagonal cutting pliers
 19. Welpers
 20. Metal file
 21. Scratch awl
 22. Oxy-fuel torch tip cleaner
 23. Cutting guide
 24. Flashlight
 25. Pen
 26. Pencil
 27. Marking pencil
 28. Cordless power tool with wire wheel only
- IV. Contest uniform will consist of the following:
- A. Black work pants – no synthetic materials
 - B. Closed toed leather boots
 - C. Long sleeve, button down, white cotton shirt
 - D. FFA Jacket *
 - E. FFA Tie *
 - F. Appropriate coveralls, leather work apron with sleeves, welding jacket, long sleeve shirt
- *To be worn during check in ONLY with black pants, white long sleeve button down shirt, and leather boots and not during the contest.
- V. Contestants must correctly use the welding equipment during the contest. Equipment set up and operation is essential to the welder's ability to function in the workplace. Students are expected to be familiar with a variety of machines and to be able to set up machines for the given process. Contest personnel will be available to assist in unusual complications that may arise associated with equipment set up. If it is determined that the machine malfunctions beyond the contestants control, the contestant may be given the opportunity to redo that rotation at the contest host's discretion with no penalty to their score.
- VI. At the time of the contest, plans and instructions will be provided to contestants.
- VII. Time limits will be set for each rotation and announced at the contest site.
- VIII. The sponsoring school has the option to include safe work habits as part of the scorecard of up to 10% of the total points possible in that specific skill event. After a warning, the sponsoring school reserves the right to remove any contestant that violates accepted safety practices that endanger themselves or others in the contest.
- IX. No unauthorized notes, printed materials, or tools may be used in any portion of the contest. Contestants found in violation will be disqualified from contest.
- X. While the contest is in progress, contestants shall not communicate with anyone but the judges. Any observed communications other than with the judges may result in disqualification of the individual or team.

- XI. Completed projects will be evaluated visually and may include nondestructive and/or destructive testing.
- XII. Host site will provide all plans, tests and written documents no later than 2 weeks after the contest is completed to all participating teams.

Contest Area Descriptions:

- XIII. Welding Application (200 points)
 - A. *Overview:* Contestants will be supplied plan sets at the contest site which outline the hands-on portion of the contest. These plan sets will be basic, three view, shop drawings which incorporate welding symbols and procedures. Contestants will be required to interpret the drawings and weld symbols to configure their projects following the described welding symbols, procedures and measurements. Projects will be submitted at the end of the prescribed time period for evaluation by the judges. A total of four process areas will be completed scored at 50 points per process.
 - B. *Welding Processes:* As outlined in the Contest Scope, there are six processes described as competency areas for the contestants. They are SMAW, GMAW, FCAW, GTAW, OFW and the Cutting Processes. The possible cutting processes include Plasma Arc Cutting (PAC), Oxy-fuel Cutting (OFC), and Air Carbon Arc Cutting/Gouging (CAC). Contestants will have projects which incorporate a minimum of three of the six processes. Cutting may comprise a maximum of one of the four required exercises. Rotations will be set up by the host committee.
 - C. *Base Metals:* Contestants may weld mild steel, aluminum and/or stainless steel.
 - D. *Filler Metals:* Contestants must be able to weld with a variety of filler metals that correspond to the proper welding process and base metals.
 - E. *Welding Positions:* Contestants will weld in the flat (1G and 1F), horizontal (2G and 2F), vertical (3G and 3F) and overhead (4G and 4F) positions.
 - F. *Possible Joint Configurations:* Joint configurations may include butt joints, corner joints, lap joints, edge joints, and/or tee joints that may include plate-to-plate, pipe-to-plate, pipe-to-pipe connections.
 - G. *Possible Welds:* Contestants must be prepared to weld: bevel-groove welds, fillet welds, square groove welds, and /or v-groove welds.
 - H. *Welding Equipment/Machines:* Welding equipment may be obtained from a variety of sources and may include transformer, transformer/rectifier, generators, and/or inverters.
- XIV. Written Test (100 points)
 - A. A written test shall include questions and/or problems from the following areas:

1. Safety	10 points
2. Shielded Metal Arc Welding (SMAW)	10 points
3. Oxy Fuel Welding (OFW)	10 points
4. Gas Metal Arc Welding (GMAW)	10 points
5. Flux Core Arc Welding (FCAW)	10 points
6. Gas Tungsten Arc Welding (GTAW)	10 points
7. Cutting Processes	10 points
8. Welding Symbols	10 points
9. Weld testing, inspection and metallurgy	10 points
10. Welder Certification	10 points
 - B. The test may be true-false and multiple choice in any combination. The test will be comprised of 50 questions valued at 2 points per question.

- C. The questions for the written test will come from the *Welding Skills* textbook written by Moniz. The latest two editions will be used.
- XV. Weld Testing/Inspection (50 points)
- A. *Overview*: Contestants will evaluate weld samples utilizing visual testing methods (VT). Weld samples will be evaluated and compared to sections of the AWS D1.1 code for acceptability or rejection. Weld samples and appropriate code sections will be provided by the host committee. Contestants will also need to be familiar with common nondestructive testing (NDT) methods. This contest area will be a practical lab exercise whereby the contestants visit stations and provide responses on an answer sheet provided by the host committee. This will consist of 25 questions valued at 2 points per question.
- B. *Nondestructive Testing (NDT)*: Contestants should be able to identify common NDT methods by photograph or real physical examples. The following methods may be included in this contest area: Visual Testing (VT), Dye Penetrant testing (PT), Ultrasonic Testing (UT), Radiographic Testing (RT) and Magnetic Particle Testing (MT). Questions will include both visual identification, as well as some basic knowledge questions about the testing methods.
- C. *Visual Testing (VT)*: Contestants should be able to identify and measure the following surface indications: various forms of porosity, overlap/cold lap, undercut, cracks and inclusions. Upon identification, students should be able to measure these indications and reference the appropriate code section to determine whether the indication is an actual defect that would constitute rejection and repair. Code examples will be provided by the host committee and be based on the AWS D1.1 Structural Welding Code.
- XVI. Job Portfolio and Application (50 points)
- A. *Overview*: All contestants will submit a digital job portfolio to the judging committee. The portfolio must be submitted to the contest host by 11:59 p.m. on the Wednesday immediately prior to the contest to allow ample time for the portfolios to be graded. Each contestant will submit his or her portfolio as a pdf. Any portfolios submitted in another format will be disqualified. Additionally, contestants will complete a sample job application onsite as one of the rotations.
- B. *Portfolios*: (35 points) Portfolios will consist of the following components: Title Page, Table of Contents, Letter of Introduction, Resume, Letter of Recommendation, and Supporting Evidence. All components must follow current, professional standards. Supporting Evidence will use the current FFA Proficiency Photo Pages. See rubric on page 7 for additional scoring information.
- C. *Job Application*: (10 points) A sample job application will be completed as one of the rotations at the contest site. These applications are intended to reflect the practice of handwriting an application as is found in many vocational/trade situations. Contestants should be able to write legibly and fully complete an application for employment. A 3"x5" card may be handwritten ahead of time to use as a reference during this rotation. The only supplemental information that may be written are: references names, addresses, phone numbers, place of employment address and place of employment phone number. See rubric below for additional scoring information.

Rubric:

Job Application Form	10	9-10 Points <ul style="list-style-type: none"> No spelling and/or grammatical errors Neat and legible All sections are complete Follows instructions and uses proper employment format Contains relevant, descriptive information Consistent with Resume and Letter of Introduction 	7-8 Points <ul style="list-style-type: none"> Occasional spelling and/or grammatical errors Predominately neat and legible Many sections are complete Follows instructions and uses proper employment format Contains relevant information Generally consistent with Resume and Letter of Introduction 	5-6 Points <ul style="list-style-type: none"> Persistent spelling and/or grammatical errors Mostly neat and legible Most sections are complete Follows most instructions Lacks relevant information Mainly consistent with Resume and Letter of Introduction 	3-4 Points <ul style="list-style-type: none"> Frequent spelling and/or grammatical errors Mostly disorganized and illegible Many sections are incomplete Does not follow Instructions Lacks relevant Information Inconsistent with Resume and Letter of Introduction 	1-2 Points <ul style="list-style-type: none"> Constant spelling and/or grammatical errors Disorganized and Illegible Incomplete Does not follow Instructions Lacks relevant information Inconsistent with Resume and Letter of Introduction
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D. Math Calculations: (5 points): The Math Calculations will consist of five basic math problems, which could include addition, subtraction, multiplication and dividing whole numbers, fractions, and decimals. All math problems will relate to the welding industry. Host school will provide basic four-function calculators for every student in each rotation. Contestants may utilize their own four-function calculators however cell phone calculators are prohibited. Each calculation is worth 1 point.

Contest Reference Material

The Procedure Handbook of Arc Welding, by Lincoln Electric Company, Cleveland, Ohio. www.lincolnelectric.com The Lincoln Electric Company 22801 St. Clair Ave. Cleveland, OH 44117 Phone: 216-481-8100	AWS A3.0 (Terms and Definitions) and AWS A2.4 (Symbols), American Welding Society. www.aws.org American Welding Society 550 N.W. LeJeune Road Miami, Florida 33126 Phone: 800-443-9353 or 305-443-9353
The Educational Instructor’s Package, by Miller Electric Manufacturing Co. www.millerwelds.com Miller Electric Manufacturing Co. 1635 W. Spencer St. P.O. Box 1079 Appleton, WI 54912-1079 Phone: 920-734-9821 Miller.	Welding Skills, by Moniz www.atplearning.com American Technical Publishers 10100 Orland Parkway #200 Orland Park, IL 60467 Phone: 708-957-1100
AWS D1.1 Structural Welding Code Steel Section 6 - Inspection www.aws.org American Welding Society 550 N.W. LeJeune Road Miami, Florida 33126 Phone: 800-443-9353 or 305-443-9353	AWS A2.4 Standard Symbols for Welding, Brazing, and Nondestructive Examination www.aws.org American Welding Society 550 N.W. LeJeune Road Miami, Florida 33126 Phone: 800-443-9353 or 305-443-9353

Ag Welding Contest Portfolio Rubric

	Points	Max Points	Exemplary	Effective	Acceptable	Developing	Poor	Missing
Title Page		2	<p>2 Points</p> <ul style="list-style-type: none"> • Student Name • Chapter Name • Advisor Name • Contest Name • Contest Location • Date of Contest • All above information centered 				<p>1 Point</p> <ul style="list-style-type: none"> • Missing any information in column one • Additional graphics added to the page • Spelling and/or grammatical errors found 	0 points
Table of Contents		2	<p>2 Points</p> <ul style="list-style-type: none"> • Proper format and must include: <ul style="list-style-type: none"> – Letter of Introduction – Resume – Letter of Recommendation – Supporting Evidence #1 – Supporting Evidence #2 – Supporting Evidence #3 				<p>1 Point</p> <ul style="list-style-type: none"> • Missing any information in column one • Does not follow proper Table Of Contents format 	0 points
Letter of Introduction		10	<p>9-10 Points</p> <ul style="list-style-type: none"> • Properly addressed to a local business • No spelling and/or grammatical errors • Unique, detailed letter which is well-stated, clear and concise • Correctly reflects attached resume • Visually appealing and follows business format • Contains a valid signature 	<p>7-8 Points</p> <ul style="list-style-type: none"> • Properly addressed to a local business • Occasional spelling and/or grammatical errors • Descriptive letter with advanced vocabulary • Often aligns with attached resume • Frequently follows business format • Contains a valid signature 	<p>5-6 Points</p> <ul style="list-style-type: none"> • Attempts to properly address to a local business • Regular spelling and/or grammatical errors • Generic letter with basic vocabulary • Mostly aligns with attached resume • Mostly follows business format • Contains a valid signature 	<p>3-4 Points</p> <ul style="list-style-type: none"> • Improperly addressed • Frequent spelling and/or grammatical errors • Vague letter with elementary vocabulary • Often contradicts attached resume • Makes an attempt to follow business format • Contains a valid signature 	<p>1-2 Points</p> <ul style="list-style-type: none"> • Not addressed to a local business • Constant spelling and/or grammatical errors • Purpose of letter is unclear • Continuously contradicts attached resume • Does not follow business format • Contains no signature 	0 points
Resume		10	<p>9-10 Points</p> <ul style="list-style-type: none"> • No spelling and/or grammatical errors • Visually appealing • Has consistent fonts, titles, spacing and formatting • Logically and chronologically organized • Follows Business Format 	<p>7-8 Points</p> <ul style="list-style-type: none"> • Occasional spelling and/or grammatical errors • Visually appealing • Has nearly consistent fonts, titles, spacing and formatting • Logically but not chronologically organized • Follows Business Format 	<p>5-6 Points</p> <ul style="list-style-type: none"> • Regular spelling and/or grammatical errors • Attempts visual appeal • Attempts consistent fonts, titles, spacing and formatting • Inconsistent logical and chronological organization • Makes An Attempt To Follow Business Format 	<p>3-4 Points</p> <ul style="list-style-type: none"> • Frequent spelling and/or grammatical errors • Lacks visual appeal • Fonts, titles, spacing and formatting are often different • Disorganized • Makes An Attempt To Follow Business Format 	<p>1-2 Points</p> <ul style="list-style-type: none"> • Constant spelling and/or grammatical errors • Lacks visual appeal • Fonts, titles, spacing and formatting are inconsistent • Disorganized • Does Not Follow Business Format 	0 points

Letter of Recommendation		2	<p>2 Points</p> <ul style="list-style-type: none"> Dated current letter of recommendation within the last year Author of letter is not related to contestant Letter is relevant to the welding and/or construction industry Contains a valid signature 				<p>1 Points</p> <ul style="list-style-type: none"> Does not contain a date Date printed is beyond one year from the contest date Letter content is regarding a topic not relating to the welding and/or construction industry Does not contain a valid signature 	<p>0 Points</p> <ul style="list-style-type: none"> Author is related to contestant
Supporting Evidence #1		3	<p>3 Points</p> <ul style="list-style-type: none"> Supporting evidence includes one photograph. Picture is clear, of high quality and taken in the landscape position The page uses the current state proficiency photo page template Contains a well written description less than 500-characters which contains no spelling and/or grammatical errors and uses technical, advanced vocabulary to describe what is occurring in the photograph 		<p>2 points</p> <ul style="list-style-type: none"> Supporting evidence includes one photograph. Picture is mostly clear and taken in either the landscape or portrait orientation The Page uses the current state proficiency photo page template Contains a basic description less than 500-characters which contains regular spelling and/or grammatical errors, and some technical, advanced vocabulary to describe what is occurring in the photograph 		<p>1 Point</p> <ul style="list-style-type: none"> Supporting evidence includes one photograph. Picture is blurry and difficult to see. It is taken in either the landscape or portrait orientation The page uses the current state proficiency photo page template Contains a vague description less than 500- characters which contains constant spelling and/or grammatical errors and uses technical, advanced vocabulary to describe what is occurring in the photograph 	<p>0 Points</p> <ul style="list-style-type: none"> The current State Proficiency photo page is not used
Supporting Evidence #2		3						
Supporting Evidence #3		3						

Disqualifications:

- File is sent in a format other than a PDF
- One contestant's portfolio is sent in multiple files

Comments/Recommendations:

AGRICULTURE EXPERIENCE TRACKER (AET) FARM RECORD BOOK

Revised 12/2023

Purpose and Standards

To help close the achievement gap we will encourage students to better analyze farm records which will reinforce mathematics standards. California Career Technical Education Model Curriculum Standards addressed by this event include:

Foundation Standards: 1.0 Academics – 1.1 Mathematics, 10.0, 12.0, 5.0 Problem Solving and Critical Thinking – 5.1, 5.2, 5.3, 10.0 Technical Knowledge and Skills – 10.3

Agriculture Business Pathway: A4.0, A4.1, A4.2, A4.3, A4.4, A4.5, A4.6

Contestants

The team shall consist of three or four members. The scores of the three highest team members shall be used for the team score. All team members are eligible for individual awards.

Classes

Class	Individual Points	Team Points
AET Record Keeping Written Test	50	150
Budget Scenario Problem	50	150
AET Scenario Problem	100	300
TOTAL	200	600

Tie Breaker

1. In the AET Farm Record Book Contest, individual or team ties shall be broken by the AET Scenario score(s). If there is still a tie, AET Record Keeping Written Test score(s) will be used. The third area to break ties will be the Budget Scenario Problem score(s).
2. If a tie still exists, the total score of the individual or team will be used.

Sub-contest Awards

Sub-contest awards will be given for high teams and individuals in the following areas: Written Test, Scenario Problem, and Budget Scenario Problem.

Rules

- I. The contest shall consist of three sections.
 - A. Record Keeping Written Test.
 1. Time limit 40 minutes.
 2. The test will consist of 50 true/false, multiple-choice, and matching questions.
 3. Each question will be worth one point.
 4. The test will be based on the following AET Resources.
 - a. <https://www.theaet.com/studenthelp>
 - b. <https://www.theaet.com/ClassroomResources>
 - c. <https://facebook.com/agriculturalexperiencetracker/?ref=bookmarks>
 - B. Budget Scenario Problem
 1. Time limit 40 minutes.

2. The problem will consist of fictitious budget scenario of an agricultural-based enterprise(s). Contestants will formulate a budget based on the information provided. Contestants will utilize a provided spreadsheet to formulate their budget.
 3. Contestants will answer multiple choice, true/false or matching questions based on the complete budget for scoring. The number of questions is up to the site, but the total score must be 50 points.
- C. AET Scenario Problem
1. Time limit 120 minutes.
 2. 100 points allowed for this section.
 3. The Scenario problem will consist of a fictitious scenario of a single student Supervised Agricultural Experience (SAE), FFA participation, and community service. Contest participants will enter scenario information into a contest specific practice portal of the AET website set up and managed by AET.
 4. Contestants will answer multiple choice, true/false or matching questions based on their completed scenario for scoring. The number of questions is up to the contest site, but the total score must be 100 points.
- II. Laptop computers or tablets shall be allowed in the AET Farm Record Book Contest or use host facilities' equipment.
- III. At the option of the host school, a critique may be given, the scenario and scenario key will be provided after the contest to participating schools.
- IV. The State Staff representative that oversees the AET Farm Record Book contest shall review all contest problems and make changes necessary to insure that the contest meets the approved curricular code.

AGRISCIENCE FAIR

Revised 6/2022

Purpose and Standards

The FFA Agriscience Fair recognizes middle and high school students who are studying the application of scientific principles and emerging technologies in agricultural enterprises.

Goals

- Provide students with an opportunity to use the scientific process.
- Provide students an opportunity to achieve local, state and national recognition for their accomplishments in agriscience.
- Reinforce skills and principles learned in agriscience courses.
- Provide an opportunity for students to demonstrate and display agriscience projects that are products of their agriscience courses.
- Provide recruiting and promotional opportunities for agriscience programs.

Foundation Standards: 1.0 Academic (1.1 Math, 1.2 Science), 2.0 Communications (2.1-2.4), 4.0 Technology, 5.0 Problem Solving and Critical Thinking, 6.0 Health and Safety, 7.0 Responsibility and Flexibility, 8.0 Ethics and Legal Responsibilities, 9.0 Leadership and Teamwork (Team Projects), 10.0 Technical Skills, 11.0 Demonstration and Application.

Pathway Standards: All pathway standards (A-G) are addressed according to specific agriscience category.

Contestants

Any 7th - 12th grade student enrolled in an agriculture course is eligible to exhibit at the Fair. The student's agricultural education teacher must certify all projects entered.

Classes

Class	Individual Points	Team Points
Paper	100	300 (25%)
Exhibit	50	
Interview		360 (75%)
TOTAL	150	660

See notes under rules.

Tie Breaker

If a tie exists, the winning projects will be determined by highest paper score. If a tie still exists, the common panel of judges will determine the winner.

Agriscience Fair Rules

I. Judging Divisions

- A. Division I – Individual member in grades 7th & 8th (Discovery)
- B. Division II – Team of two members in grades 7th & 8th (Discovery)
- C. Division III – Individual member in grades 9th & 10th (Novice)
- D. Division IV – Team of two members in grades 9th & 10th (Novice)
- E. Division V – Individual member in grades 11th & 12th (Advanced)
- F. Division VI – Team of two members in grades 11th & 12th (Advanced)

II. Judging Categories

There are six different categories. They are:

Food Products and Processing Systems (FPP)

The study of product development, quality assurance, food safety, production, sales and service, regulation and compliance and food service within the food science industry.

Examples:

- Effects of packaging techniques on food spoilage rates
- Resistance of organic fruits to common diseases
- Determining chemical energy stored in foods
- Control of molds on bakery products

Environmental Services/Natural Resource Systems (ENR)

The study of systems, instruments and technology used in waste management; the study of the management of soil, water, wildlife, forests and air as natural resources and their influence on the environment.

Examples:

- Effect of agricultural chemicals on water quality
- Effects of cropping practices on wildlife populations
- Compare water movements through different soil types

Animal Systems (AS)

The study of animal systems, including life processes, health, nutrition, genetics, management and processing, through the study of small animals, aquaculture, livestock, dairy, horses and/or poultry.

Examples:

- Compare nutrient levels on animal growth
- Research new disease control mechanisms
- Effects of estrous synchronization on ovulation
- Compare effects of thawing temperatures on livestock semen
- Effects of growth hormone on meat/milk production

Plant Systems (PS)

The study of plant life cycles, classifications, functions, structures, reproduction, media and nutrients, as well as growth and cultural practices, through the study of crops, turf grass, trees and shrubs and/or ornamental plants.

Examples:

- Determine rates of transpiration in plants
- Effects of heavy metals such as cadmium on edible plants
- Compare GMO and conventional seed/plant growth under various conditions
- Effects of lunar climate and soil condition on plant growth

- Compare plant growth of hydroponics and conventional methods

Power, Structural and Technical Systems (PST)

The study of agricultural equipment, power systems, alternative fuel sources and precision technology, as well as woodworking, metalworking, welding and project planning for agricultural structures.

Examples:

- Develop alternate energy source engines
- Create minimum energy use structures
- Compare properties of various alternative insulation products
- Investigation of light/wind/water energy sources

Social Systems (SS)

The study of human behavior and the interaction of individuals in and to society, including agricultural education, agribusiness economic, agricultural communication, agricultural leadership and other social science applications in agriculture, food and natural resources.

Examples:

- Investigate perceptions of community members towards alternative agricultural practices
- Determine the impact of local/state/national safety programs upon accident rates in agricultural/natural resource occupations
- Comparison of profitability of various agricultural/natural resource practices
Investigate the impact of significant historical figures on a local community
Determine the economical effects of local/state/national legislation impacting agricultural/natural resources

If the judges feel the project doesn't match the category it will be disqualified.

Teachers should use the National FFA Agriscience website and the National FFA Category Jot Form to clarify the correct category for projects prior to submission.

- III. There shall be six categories at the Agriscience Fair.
 - A. Individual and team projects will be judged separately within each of the six categories. There will be winners designated from each of the six divisions in all six categories.
 - B. At the State Finals competition, all projects in each division within each category will be placed through 3rd place and the results will be distributed.
 - C. All winners from Divisions I through VI will be selected on ranking from the display board and paper. Each division will produce a winner which will represent California in National FFA Competition. Projects selected to represent a Chapter Group will still be judged in the traditional manner to compete for category honors and the chance in the National FFA Competition.
 - D. Chapters will be allowed to enter as many exhibits per category as they choose.
 - E. Individual and team projects that receive first place or represent California at the National Agriscience Fair are indefinitely banned from competing in the same category and division.
- IV. Selection of the State Champion Chapter Group.
 - A. For the selection of the overall top five State Champion Chapter Group, in each division Discovery (7th & 8th grade), Novice (9th & 10th grade), and Advanced (11th & 12th grade) schools in the Agriscience Fair, each chapter will select three projects to be considered for the Chapter Group competition. The three projects may be composed of individual or team

- projects. Discovery Chapter groups will consist of projects from Divisions I and/or II any category. Novice Chapter groups will consist of projects from Division III and/or IV any category. Advanced Chapter groups will consist of projects from Division V and/or VI any category.
- B. Teams will be identified when papers are submitted and any substitutions must be made with the contest coordinator 30 days prior to competition by 8 a.m.
 - C. A maximum of five Chapter Groups per division (as defined in part A of this section) as determined by a screening panel using the appropriate prequalifying rubric to score written reports and display boards, will be interviewed for the Chapter Group competition at the California State FFA Conference. All remaining teams will be placed using written report screening score only. Chapter Groups will be notified seven days prior to competition.
 - D. Judging and scoring of projects will be modeled after the National FFA Agriscience Fair. The student or students from each project must be in attendance for a ten (10) minute presentation and interviewed on the day of the competition. A common panel of judges will interview the student or students making up each team. Interviews will take place in front of the students' display board.
 - E. Scoring the projects will be based on the three (30) - ten (10) minute student interview and five (5) minutes for the judges to review the paper and display board. The judges will use the National Agriscience scorecard for judging the projects and score sheets from the judges will be added up from each project to compose the chapter's overall Chapter Group score.
 - F. The Chapter Group will be placed first through fifth based on overall Chapter Group points and there shall be awarded a team championship at the Discovery, Novice, and Advanced levels.
- V. Exhibit Requirements
- A. Each student and/or team of students may enter only one project. Projects entered by a team of two students are allowed.
 - B. Exhibited projects and research papers shall be the result of the student(s) own efforts.
 - C. Judges will request at least the top three to top six manuscript scored papers for scoring of display boards in each category and division in a virtual format through AET.
 - D. Only the requested display boards will be on display at the California FFA Leadership Conference.
 - E. If an exhibit becomes unsafe or unsuitable for display during the Fair, it will be removed and deemed ineligible for any awards.
 - F. Projects, which involve vertebrate animals, must conform to the **California State Education Code Section 514540**. In general, this code section says that you must not do an experiment that would in any way cause pain, harm or death to the animal. Experiments on live animals involving surgery, the removal of parts, injection of harmful chemicals, exposure to harmful environments, etc., are not acceptable at the FFA Agriscience Fair.
 - G. Live vertebrates are not permitted at the Fair.
 - H. Lasers may not be used in any exhibit.
 - I. No exhibit shall have open flames. Any part of an exhibit that can get hotter than 100 degrees Celsius (boiling water temperature) must be adequately protected from its surroundings.
 - J. If your exhibit includes electrical wiring or devices, they must be safe. For voltages above 20 volts you must take some special precautions. Even if you do not use higher voltages, make all your connections secure and provide suitable protection against short circuits, etc.
 - K. All wiring carrying more than 20 volts must be well insulated. Also the connections must either be soldered or secured by UL approved fasteners. The wire used must be insulated

- A. Data in the field book will be collected from June 1 of the current academic year unless it is identified as an extension project as defined by the National FFA.
- VIII. Set-up Requirements
- A. The State Agriscience Fair will be held in conjunction with the California FFA Leadership Conference.
 - B. Exhibitors identified by the judges must have their projects set up on the date and time specified by the State FFA Advisor.
 - C. Judging will occur prior to the California FFA Leadership Conference, with only the top display boards invited to display on the date and time specified by the State FFA Advisor.
- IX. Scoring of Boards
- A. Each category and division may have a minimum of the top three to top six scored based on the paper score and consensus of the judges in that category and division. Finalists will be notified seven days prior to competition.

Exhibit Score Sheet

Project # _____ Project Category: _____ Division (circle one): **Novice** **Advanced**

Author: _____ Chapter: _____

Project Title: _____

Criteria Pts. Poss. Score

Creative Ability (15 points)	Possible	Earned
Display captures the attention with appropriate colors, graphics, props etc. (Penalty for live animals or hazardous substances = 20 points)	5	
Display components are legible and well written, with no errors in spelling, punctuation, or grammar.	5	
A field book is present and raw data is recorded in an appropriate manner.	5	
Scientific Thought / Goal (15 points)	-	-
The research questions or hypothesis are explicitly stated.	4	
Materials and methods describe the design of the study or experiment including information on treatments and replication.	5	
The findings are clearly presented using tables and graphs to summarize data as appropriate.	3	
The conclusions explain the significance of the findings.	3	
Thoroughness / Clarity (15 points)	-	-
All the sections of the paper are reflected in the display board: introduction, purpose and objectives, methods and materials, findings, and conclusions.	5	
Overall impact of display: unity, completeness.	10	
Skill (5 points)	-	-
Points for exceptional: idea, difficulty, complexity, quality of execution, significance of findings.	5	
Total Score Exhibit	50	

X. Research Paper

(<https://ffa.app.box.com/s/cf4o9ys85ieer7z5xqcjn17raji0tvgp/file/289991270987>)

- A. Research papers are to be typed, double spaced and recommended 3 – 12 pages in length but not to exceed 15 pages, no smaller than a 12-point font and not less than a 1-inch margin. The 15-page research paper will include Parts 1-6.
- B. After page 15 the score will discontinue scoring.
- C. A "Statement of Originality" signed by the student(s) and ag teacher(s) responsible must be submitted along with the research paper as an addendum.
- D. It is recommended that at least two judges be provided for each category to judge the exhibits in a timely fashion.
- E. It is suggested that qualifying contests be conducted in each Region, however, all interested participants may compete at the State FFA Agriscience Fair competition.
- F. An electronic copy must be received by the contest coordinator 30 days prior to the fair or the project will be disqualified. No exceptions.
- G. Cover page should include the following in the bottom right corner:
 - Name of person(s) responsible for developing project
 - Chapter Name
 - Category Name Entered
 - Division Entered (Division I, II, III, IV, V, VI)

Failure to include the above will result in disqualification.

- H. The research paper must be arranged using the American Psychological Association (APA) citation and format style using the Online Writing Lab (OWL) at Purdue University as a reference. (This portion including parts 1-7 applies to divisions 3-6 only)

Part 1 - Introduction

- Why is the topic important to the agriculture industry?
- What problem does the investigation solve for agriculture?
- Literature review – clearly details what information currently exists concerning the research project. References support information and are properly cited.

Part 2 - Materials and Methods

- Written in third person.
- Encompasses all material required.
- Statistical procedures are included in this section.

Part 3 - Hypotheses/Anticipated Results

- Clearly states the hypothesis and/or anticipated results

Part 4 - Results

- Trends and relationships are clearly addressed; no conclusions are stated in this area.
- Data that can stand alone in the form of tables and/or figures are included.

Part 5 - Discussion

- How did your results relate to the literature review (other's work) section?

Part 6 - References

- List of references cited in the research paper.
- The research paper must be arranged using the American Psychological Association (APA) citation and format style using the Online Writing Lab (OWL) at Purdue University as a reference.

Part 7 - Acknowledgements

- Detailed list or paragraph is included acknowledging anyone who assisted with ANY aspect of the project and how they helped.
- I. Plagiarism - An agriscience fair project must be the result of a student's own effort and ability. However, in securing information such as direct quotes or phrases, specific dates, figures or other materials, that information must be marked and identified appropriately. Non-compliance represents plagiarism and will automatically disqualify a participant.

Student researcher(s) may not:

- In any way falsify a permission form, scientific paper or display.
- Use another person's results or thoughts as their own even with the permission of this person. This includes work done by a family member or a mentor.
- Use information or data obtained from the internet without proper citation.
- Re-enter a project with only minor changes.

California FFA Agriscience Research Paper Score Sheet

Division 1-2

Project # _____ Author: _____

Project Title: _____

Area	High Point 15-11 points	Medium Point 10-6 points	Low Points 5-1 points	Points Possible	Points Earned
Importance	The importance includes a one paragraph answer for each question that clearly answers: Why is the topic important to the agriculture industry? What problem does the investigation solve for agriculture?	The importance includes a one paragraph answer for each question that vaguely answers: Why is the topic important to the agriculture industry? What problem does the investigation solve for agriculture?	The importance includes a one paragraph answer for each question that poorly answers: Why is the topic important to the agriculture industry? What problem does the investigation solve for agriculture?	15	
Area	High Point 15-11 points	Medium Point 10-6 points	Low Points 5-1 points	Points Possible	Points Earned
Other's Work	Clearly details what information currently exists concerning the research project. Reference where the information was found (website, book, article, etc.,) is listed, then a paragraph written by the student researcher(s) clearly describing the reference and information it provided for each publication used.	Poorly details what information currently exists concerning the research project. Reference where the information was found (website, book, article, etc.,) is listed, then a paragraph written by the student researcher(s) vaguely describes the reference and information it provided for each publication used.	Does not detail what information currently exists concerning the research project. Reference where the information was found (website, book, article, etc.,) is listed, then a paragraph written by the student researcher(s) poorly describes or is not included on what the reference says for each publication used.	15	
Area	High Point 10-8 points	Medium Point 7-5 points	Low Points 4-1 points	Points Possible	Points Earned
Materials & Methods	Clearly written to enable others to replicate the study and results. Section is written in first person and encompasses all materials required. If used, the statistical procedures are included. A narration of the steps taken to complete the experiment is included.	Not written clearly to enable others to replicate the study and results. Section may or may not be written in first person and encompasses all materials required. The statistical procedures are included but are unclear. A narration of the steps taken to complete the experiment is included.	Written poorly so that others cannot replicate the study and results. Section is not written in first person and does not encompass all materials required. The statistical procedures are not included. Steps taken to complete the experiment are listed.	10	
Area	High Point 5-4 points	Medium Point 3-2 points	Low Points 1-0 points	Points Possible	Points Earned
Hypothesis/ Anticipated Results	Student researcher(s) clearly state the hypothesis and/or anticipated results.	Student researcher(s) vaguely state the hypothesis and/or anticipated results.	Student researcher(s) do not state or poorly state the hypothesis and/or anticipated results.	5	
Area	High Point 20-14 points	Medium Point 13-7 points	Low Points 6-0 points	Points Possible	Points Earned

Results	Written results of the project are summarized. Trends and relationships are clearly addressed. No conclusions are made in this section. Data that can stand alone in the form of tables and/or figures are included.	Written results of the project are incompletely summarized. Trends and relationships are vague. No conclusions are made in this section. Data that can stand alone in the form of the table and/or figures are sometimes included.	Written results of the project are poorly summarized. Trends and relationships are not addressed. Data is not appropriately included as tables and figures.	20	
Area	High Point 10-8 points	Medium Point 7-5 points	Low Points 4-1 points	Points Possible	Points Earned
Discussion	The discussion includes clear, detailed answers for each question: What do the results of the study mean? How are they related to what others found in the "Other's Work" section.	The discussion includes vague answers for each question: What do the results of the study mean? How are they related to what others found in the "Other's Work" section?	The discussion poorly answers each question: What do the results of the study mean? How are they related to what others found in the "Other's Work" section?	10	
Area	High Point 10-8 points	Medium Point 7-5 points	Low Points 4-1 points	Points Possible	Points Earned
Conclusion	The conclusion clearly states what should be done and/or changed as a result of the research. Clearly states what the next steps are to continue the research.	The conclusion vaguely states what should be done and/or changed as a result of the research. The next steps for research are unclear.	The conclusion poorly states what should be done and/or changed as a result of the research. The next steps for research are not included.	10	
Area	High Point 10-8 points	Medium Point 7-5 points	Low Points 4-1 points	Points Possible	Points Earned
Summary	The summary is two to three paragraphs describing the study conducted. Describes why the student researcher(s) chose to conduct the study, why the study is important to the agriculture industry, how the study was conducted, what was found by conducting the study and how the results apply within the agriculture industry.	The summary is two to three paragraphs vaguely describing the study conducted. Vaguely describes why the student researcher(s) chose to conduct the study, why the study is important to the agriculture industry, how the study was conducted, what was found by conducting the study and how the results apply within the agriculture industry.	The summary is two to three paragraphs that poorly describes the study conducted. Why the student researcher(s) chose to conduct the study, why the study is important to the agriculture industry, how the study was conducted, what was found by conducting the study and how the results apply within the agriculture industry is unclear.	10	
Area	High Point 3 points	Medium Point 2 points	Low Points 1 points	Points Possible	Points Earned
Acknowledgements	Detailed list or paragraph is included acknowledging anyone who assisted with any aspect of the project and how they helped.	A list or paragraph is included acknowledging anyone who assisted with any aspect of the project.	A list or paragraph is not included acknowledging anyone who assisted with any aspect of the project and how they helped.	3	
Area	High Point 2 points	Medium Point 1 points	Low Points 0 points	Points Possible	Points Earned
Spelling/Grammar	APA or MLA citation style writing is used throughout the report. Student	APA or MLA citation style writing is used. Student researcher(s) use	APA or MLA citation style writing is not used. Student researcher(s) do	2	

	researcher(s) use complete sentences; no spelling or grammar errors present.	complete sentences; minor spelling or grammar errors present.	not use complete sentences; excessive spelling or grammar errors are present.		
Total Score				100	

California FFA Agriscience Research Paper Score Sheet

Division 3-6

Project # _____ Author: _____

Project Title: _____

Area	High Point 3 points	Medium Point 2 points	Low Points 1 points	Points Possible	Points Earned
Abstract	Abstract is brief and concisely describes the purpose, methods, results and conclusions. Abstract does not include cited references. Abstract is no longer than one page. Arrangement makes the purpose, procedure, results and conclusions clear.	Abstract describes the purpose, methods, results and conclusions. Abstract does not include cited references. Abstract is longer than one page. Arrangement makes the purpose, procedure, results and conclusions vague.	Abstract poorly describes the purpose, methods, results and conclusions. Abstract includes cited references. Abstract is longer than one page. Arrangement makes the purpose, procedure, results and conclusions unclear	3	
Area	High Point 10-8 points	Medium Point 7-5 points	Low Points 4-1 points	Points Possible	Points Earned
Introduction	Introduction answers the question "Why was the work done?" It clearly states the problem that justifies conducting the research, the purpose of the research, its impact on agriculture, the findings of earlier work and the general approach and objectives.	Introduction answers the question "Why was the work done?" It vaguely states the problem that justifies conducting the research, the purpose of the research, its impact on agriculture, the findings of earlier work and the general approach and objectives.	Introduction does not answer the question "Why was the work done?" It does not state the problem that justifies conducting the research, the purpose of the research, its impact on agriculture, the findings of earlier work and the general approach and objectives.	10	
Literature Review	The literature review details what information currently exists concerning the research project. The information includes materials used in the research and material cited such as articles about similar studies, similar research methods, history of the research area and	The literature review poorly details what information currently exists concerning the research project. The information may or may not include materials used in the research. Some materials cited includes articles about similar studies, similar research	The Literature review does not detail what information currently exists concerning the research project. There is no information included or it does not reference materials used in the research. No information cited such as articles about similar studies,	10	

	other items that support the current knowledge base for the topic and how the project might complement existing information.	methods and history of the research area. How the project might complement existing information is not clear.	similar research methods, or history of the research area. How the project might complement existing information is not clear.		
Area	High Point 15-11 points	Medium Point 10-6 points	Low Points 5-1 points	Points Possible	Points Earned
Materials & Methods	Clearly written to enable others to replicate the study and results. Section is written in third person, encompasses all materials required, states the hypothesis/research questions and explains the study design. If used, the statistical procedures are included.	Not written clearly to enable others to replicate the study and results. Section may or may not be written in third person, encompasses all materials required, states the hypothesis/research questions and explains the study design. The statistical procedures are included but are unclear	Written poorly so others cannot replicate the study and results. Section is not written in third person, does not encompass all materials required for the research and hypothesis/research questions is not stated. The statistical procedures are not included.	15	
Area	High Point 20-14 points	Medium Point 13-7 points	Low Points 6-0 points	Points Possible	Points Earned
Results	Written results of the project are summarized. Trends and relationships are clearly addressed. No conclusions are made in this section. Data that can stand alone in the form of tables and/or figures are included.	Written results of the project are incompletely summarized. Trends and relationships are vague. No conclusions are made in this section. Data that can stand alone in the form of tables and/or figures are sometimes included.	Written results of the project are poorly summarized. Trends and relationships are not addressed. Data is not appropriately included as tables and figures.	20	
Area	High Point 20-14 points	Medium Point 13-7 points	Low Points 6-0 points	Points Possible	Points Earned
Discussion & Conclusions	Brief recap of the results is included and shows how they were the foundation of the study. Sound reasoning is shown that conclusions are based on results, incorporates previous literature and relates directly to the hypothesis. Discussion refers/references to facts and figures in results section and provides recommendations for practice, future research and the impact on the agriculture industry	Brief recap of the results is included and shows how they were the foundation of the study. Unsound reasoning is shown that conclusions are based on results, vaguely incorporates previous literature and partially relates to the hypothesis. Discussion refers/references to facts and figures in results section and provides recommendations for practice, future research and the impact on the agriculture industry	No recap of the results is included or poorly shows how they were the foundation for the study. Conclusions are not based on results, previous literature and do not relate directly to the hypothesis. Discussion poorly refers/references to facts and figures in the results section and does not provide recommendations for practice, future research and does not illustrate the impact on the agriculture industry.	20	
Area	High Point 2 points	Medium Point 1 points	Low Points 0 points	Points Possible	Points Earned
Acknowledgements	Detailed list or paragraph is included acknowledging anyone who assisted with	A list or paragraph is included acknowledging anyone who assisted with any aspect of the project.	A list or paragraph is not included acknowledging anyone who assisted with	2	

	any aspect of the project and how they helped.		any aspect of the project and how they helped.		
Area	High Point 10-8 points	Medium Point 7-5 points	Low Points 4-1 points	Points Possible	Points Earned
References	References contain significant, published and relevant sources.	References listed are somewhat significant, published and relevant sources.	References listed are not significant, published and relevant sources.	10	
APA Style/Spelling	APA citation style writing is used throughout the report. No spelling or grammar errors are present.	APA citation style writing is used. Minor spelling or grammar errors are present.	APA citation style writing is not used. Excessive spelling or grammar errors are present.	10	
Total Score				100	

Revised 6/2024**Purpose and Standards**

The purpose of the agronomy contest is to create interest and promote understanding in agronomy by providing opportunities for recognition through the demonstration of skills and proficiencies. It is the intention of the contest to provide a venue for students to explore career opportunities, skills, and proficiencies in the agronomy industry. This event blends knowledge as well as critical thinking to evaluate many crop scenarios.

Foundation Standards: Academics Science, 1.d, 1.l, Communications Written and Oral Conventions Listening and Speaking 1.1, 2.2, 1.8, Ethics and Legal Responsibilities, 8.4, Leadership and teamwork, 9.1, 9.2, 9.3, 9.6

Plant and Soil Science Pathway Standards: G1.1-1.6, G5.1, G1.2, G7.1, and G.10.1-10.3

Contestants

Teams consist of four members, with all four individual scores counting as the team score. All team members are eligible for individual awards.

Classes

Class	Individual Points	Team Points
Judging Class 1	50	200
Judging Class 2	50	200
Reasons Class 1	50	200
Reasons Class 2	50	200
Identification Part 1 (Plants)	300	1200
Identification Part 2 (Insects)	50	200
Identification Part 3 (Disorders)	50	200
TOTAL	600	2400

Tie Breaker

1. The team or individual scoring the highest reason score(s) will be the winner.
2. If a tie still exists, the total score of the individual or team will be used to determine the high individual or team.
3. If a tie still exists, the higher number of the identification portion will be the winner.

Sub-contest Awards

Sub-contest awards will be given for high teams and individuals in the following areas: Judging, Identification, and Reasons (Reasons are not included in judging sub-contest score.)

Rules

- I. All contestants must participate in seed judging, hay judging, and identification.
- I. Contestants are not to take small parcels of the identification samples.
- II. Contestants and coaches are invited to ask questions of judges and inspect seed judging and identification samples after the contest.

III. Seed Judging:

- A. Samples will be judged and placed on the basis of their relative merits as seeds and not on the basis of market standards as established by the Federal Grading Standards. Factors enumerated on the attached score card will serve as a guide in evaluating judging factors. Seeds are to be judged on the basis that the seed is to be planted immediately.
- B. The classes of the contest will be made up from grain sorghums, wheat, barley, oats, field beans, blackeye beans (cowpeas), alfalfa, ladino clover, sudan grasses, vetch, and corn and alfalfa hay.
- C. Two classes will be judged, each class consisting of four (4) samples of appropriate size. The seed samples will be in open pans with appropriate name supplied. One of these two classes shall be alfalfa hay.
- D. Placings will be submitted on cards supplied to the contestant. Reasons will be given orally without the use of notes. (Notes may be used in preparation of the reasons).
- E. It should be kept in mind that only a few important reasons need be mentioned for placing one sample over another. In no case will more than two (2) reasons for any one sample be considered by the judges, and these in order of their importance.

IV. Alfalfa Hay Judging:

- A. Judging alfalfa hay is an 'art' which has considerable practical significance, since millions of dollars of hay sales per year are determined partly by subjective hay judging. Samples for dairy applications should be judged on the basis of their 'potential feeding value,' not on cosmetic or other factors. Samples will consist primarily of alfalfa and in student contests, typically four hay samples are judged. The 'potential feeding value' is a prediction as to superior vs. inferior animal performance from the different samples. Since most alfalfa hay is used in the dairy industry, judging should be based upon the feeding value for high producing dairy cows. Samples should be a minimum of a 12-15 inch thick flake from a bale, and preferable whole bales.
- B. Judging should be based approximately upon the California Alfalfa Hay Quality Designations in Table 1, which include "supreme", "premium," "good," "fair," and "low" classifications. Hay should be examined carefully for characteristics outlined under Hay Judging Scorecard and Criteria for Judging Hay in Table 2 below. Hay samples should be rated 1-100 (100 best) using the 6 criteria in Table 2, summarizing the scores, and ranking the hay from highest to the lowest rating.
- C. Contestants and officials should handle alfalfa hay samples only with a pencil or other object, to prevent contamination or destruction for a large number of judges.
- D. Alfalfa Hay Judging Scorecard
 1. Judging alfalfa hay is a difficult task, especially when comparing hays which are in the mid-range of feeding value. In practice, subjective hay judging for feeding value should be used in combination with laboratory analysis, which primarily tests for ADF (Acid Detergent Fiber, from which TDN or Total Digestible Nutrients are calculated), and CP (Crude Protein). In most contests, you will be asked to judge feeding value without benefit of a hay analysis. In many situations, it is often useful to take a hay sample, analyze the sample for ADF, NDF, and CP, and not reveal that information until after the hay has been subjectively rated. It is instructive to see the limitations of both lab testing and visual inspection. It is a rare experienced hay judge who has not been fooled by a hay sample that appears poor in feeding value, but is actually high in protein and low in fiber. Conversely, sometimes a lab test will indicate high feeding value, when the hay has serious mold problems or other defects.

2. Another consideration is Relative Feed Value (RFV), which helps buyer's rate alfalfa's potential for productivity in the livestock they are feeding. It is based on the digestibility and palatability and is mathematically correlated to Neutral Detergent Fiber (NDF), which measures the non-digestible proportion (i.e. cellulose, lignin) of the feed, which ranges between 30-50% in alfalfa hay.
3. The California Hay Quality Designations are given below which should be used as a general guide.

Table 1. California Alfalfa Hay Quality Designations

Designations	Verbal Description	ADF	TDN
		(100%dm)	(90%dm)
Supreme	Very early maturity, pre-bloom, soft fine stemmed, extra leafy. Factors indicative of very high nutritive content. Hay is excellent color and free of damage.	27% or less	Over 54%
Premium	Prebud or prebloom stage of maturity. Low fiber with soft stems, high energy, and protein content (low ADF). Very high percentage leaves, low percent stem. Good green color, very good leaf attachment, good odor, free of grasses and weeds, no noxious weeds, well cured, no mold.	29% or less	54% or greater
Good	Prebloom to early bloom stage of maturity, low to medium fiber with soft stems, high energy and protein content. High percentage leaves, medium percent stem Good green color, fairly free of grasses and weeds, no noxious weeds, well cured	29-32%	52-54%
Fair	Mid-to late bloom stage of maturity, medium. Medium to high fiber with coarse stems and low to moderate energy and protein content. Low percentage leaves, high percent stem, fair to poor color, fair leaf attachment, low to moderate grass and weed contents, no noxious weeds, well cured.	32-37%	49-52%
Poor	Hay with a serious fault or faults, very low fiber.	>37%	<49%

4. Criteria and terminology used for judging alfalfa hay:
 - a) Alfalfa hay (and other forages) should be judged according to a subjective evaluation of what the expected response in the animal might be. This should be termed "potential feeding value," since actual feeding value is highly dependent upon animal and management factors.
 - b) Potential feeding value has two major components. 1. Potential Digestibility and 2. Potential intake. The total digestible energy, protein, and minerals which are contained in the forage are constrained by the amount of time that it takes for the animal to utilize those nutrients. Some forages are very high in digestible nutrients, but intake factors significantly limit the feeding value to the animal.
 - c) The factors listed in Table 2 below will influence both digestibility and intake factors. Palatability factors such as texture and odor will primarily influence intake. Fiber and protein are major determinants of both digestibility and intake, but must be inferred from other factors, such as leafiness, weediness, and growth stage since few people can judge nutrient content directly.

- d) Table 2. Major factors influencing the feeding value of alfalfa hay. These factors are listed in approximate order of importance. Each factor should be weighed as to its predicted importance to animal performance, which is the true test of the value of forages.

Table 2. Hay Judging Scorecard and Criteria for Judging Hay

Quality Factor	Ability to be judged by visual inspection	Characteristics to Consider
Fiber and Protein Content	very poor	Fiber content is an essential factor to know when determining feeding value. Unfortunately, it is very difficult to judge visually. Contestants should make a subjective determination of fiber content based upon leaf stem ratio and growth stage, and coarseness of stem.
Growth Stage (maturity of plant at harvest)	poor	Even though it is difficult to judge plant maturity in a hay bale, contestants should examine the bales for evidence of bloom, extent of bloom, and relative maturity of the individual stems. The dominant maturity of all of the stems should be considered.
Leafiness	fair	Contestants should assess the alfalfa leaf component as a percentage of the total dry matter in the bale. Higher leaf percentage will almost always indicate higher feeding value, and high stem percentage indicates lower feeding value. This is often termed leaf/stem ratio.
Foreign Material	Excellent	The percentage of alfalfa hay which is not alfalfa will have an important influence on feeding value, especially later-maturity grasses. Efforts to identify the species of weeds should be made and differentiating noxious vs. other weeds. Keep in mind that some weeds can actually be high in feeding value.
Color/Odor	Excellent	Odor can influence palatability and therefore feed intake and animal performance. Odor should be fresh and pleasant. Color might be misleading. It probably does not have much influence on feeding value, but can influence marketability or perception.
Texture/Condition/Mold	Excellent	Texture can influence palatability or feed intake. Sometimes very coarse or prickly hay can irritate animal's mouths, affecting intake. The condition of the hay (whether baled too wet or too dry), the presence of mold, leaf diseases should all be taken into account.

- V. Plant Identification:
- A. Fifty (50) specimens will be selected from the attached identification list. Specimens may be either green plant material, dried plant material, or seed samples. As many samples as possible will be growing plants.
 - B. Host site will provide a curricular ID list for identification of plants.
 - C. The letter (B) next to the plant (weed) is to indicate that there are two (2) choices.
 1. Place the live or mounted plant out by itself or
 2. Place out the plant and seed together.
 - D. If the species name is one with the letter (B), do not put the seed out alone. The plant may be put out alone.
 - E. If the species name does not have the letter (B), the plant or the seed may be exhibited but not both together.
 1. Identification Scoring: Each item in the Identification will be awarded a total of 6 points
- VI. Insect Identification:
- A. 5 specimens will be identified (50 points).
 - B. Host site will provide a curricular ID list for identification of insects
- VII. Disorders and Diseases Identification:
- A. 5 specimens will be identified (50 points).
- VIII. Time:
- A. Judging - placing two (2) classes of four (4) samples each, allowing twelve (12) minutes for placing each class.
 - B. Reasons: Two (2) minutes shall be allowed for giving oral reasons on two (2) classes. Reasons will be given on Alfalfa Hay.
 - C. Identification: Fifty (50) minutes will be allowed for:
 1. The identification of the seed and plant specimens
 2. Insects
 3. Disorders and Diseases

Identification List for Agronomy Contest

Common names only will be used in the contest.

Code Common Name**Botanical Name****WHEAT**

If a plant sample is displayed the participants must mark Wheat.

100	Durum wheat	Triticum Durum
101	White wheat	Triticum aestivum
102	Hard Red wheat	Triticum aestivum

SORGHUMS**Grain:**

103	White sorghum	Sorghum bicolor
104	Yellow sorghum	Sorghum bicolor

Grass Sorghum:

105	Sweet sorghum	Sorghum bicolor or S. bicolor x sudanense
106	Piper sudangrass	Sorghum sudanense

CORN

If a plant sample is displayed the participants must mark Corn.

107	Dent corn	Zea mays
108	Sweet corn	Zea mays
109	White rice popcorn	Zea mays
110	Yellow pearl popcorn	Zea mays

111	RICE	Oryza sativa
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EDIBLE SEED LEGUMES**BEANS**

112	Blackeye beans or Cowpea	Vigna unquiculata
113	Cranberry bean	Phaseolus vulgaris
114	Garbanzo bean	Cicer arietinum
115	Large lima bean	Phaseolus lunatus
116	Large seeded horsebean	Vicia faba
117	Mung bean	Vigna radiatae
118	Pink bean	Phaseolus vulgaris
119	Pinto bean	Phaseolus vulgaris
120	Red kidney bean	Phaseolus vulgaris
121	Small lima bean	Phaseolus lunatus
122	Small white bean	Phaseolus vulgaris

123	OATS	Avena sativa
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124	BARLEY	Hordeum vulgare
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Code Common Name**Botanical Name****FORAGE LEGUMES**

125	Alfalfa	<i>Medicago sativa</i>
126	Alsike clover	<i>Trifolium hybridum</i>
127	Bird's foot trefoil	<i>Lotus corniculatus</i>
128	Common vetch	<i>Vicia sativa</i>
129	Crimson clover	<i>Trifolium incarnatum</i>
130	Ladino clover	<i>Trifolium repens</i>
131	Purple vetch	<i>Vicia atropurpurea</i>
132	Red clover	<i>Trifolium pratense</i>
133	Rose clover	<i>Trifolium hirtum</i>
134	Strawberry clover	<i>Trifolium fragiferum</i>
135	Subterranean clover	<i>Trifolium subterraneum</i>
136	White sweet clover	<i>Melilotus alba</i>

FORAGE GRASSES

137	Dallisgrass	<i>Paspalum dilatatum</i>
138	Hardinggrass	<i>Phalaris tuberosa</i> var. <i>stenoptera</i>
139	Orchardgrass	<i>Dactylis glomerata</i>
140	Prarie brome	<i>Bromus catharticus</i>
141	Tall fescue	<i>Festuca arundinacea</i>

MISCELLANEOUS CROPS

142	Cotton	<i>Gossypium</i> spp.
143	Flax	<i>Linum usitatissimum</i>
144	Hog millet or Proso millet	<i>Panicum miliaceum</i>
145	Lentils	<i>Lens culinaris</i>
146	Peanuts	<i>Arachis hypogaea</i>
147	Rye	<i>Secale creale</i>
148	Safflower	<i>Carthamus tinctorius</i>
149	Sesame	<i>Sesamum indicum</i>
150	Soybean	<i>Glycine max</i>
151	Sunflower	<i>Helianthus annuus</i>
152	Triticale	<i>Triticasecale</i>

GREEN MANURE CROPS

153	Buckwheat	<i>Fagopyrum esculentum</i>
154	Field peas	<i>Pisum sativum</i>
155	Radish	<i>Raphanus raphanistrum</i> subsp. <i>sativus</i>
156	Small seeded horsebean	<i>Vicia faba</i>
157	Sour clover or Annual yellow sweet clover	<i>Melilotus indicus</i>

WEEDS

If the botanical name is preceded by (B), do not put the seed out alone; however, the plant may be put out alone. If there is no (B), the plant or the seed may be exhibited but not both together.

200	Annual bluegrass	(B) <i>Poa annua</i>
201	Annual sowthistle	(B) <i>Sonchus oleraceus</i>
202	Black mustard	(B) <i>Brassica nigra</i>
203	Black nightshade	(B) <i>Solanum nigrum</i>
204	Broadleaf plantain	(B) <i>Plantago major</i>
205	Buckhorn plantain	(B) <i>Plantago lanceolata</i>
206	California burclover	(B) <i>Medicago polymorpha</i>
207	California poppy	(B) <i>Eschscholzia californica</i>
208	Common chickweed	(B) <i>Stellaria media</i>
209	Common fiddleneck	(B) <i>Amsinckia intermedia</i>
210	Common groundsel	(B) <i>Senecio vulgaris</i>
211	Dandelion	(B) <i>Taraxacum officinale</i>
212	Hairy (or Large) crabgrass	(B) <i>Digitaria sanguinalis</i>
213	Jimsonweed	(B) <i>Datura stramonium</i>
214	London rocket	(B) <i>Sisymbrium irio</i>
215	Mayweed chamomile	(B) <i>Anthemis cotula</i>
216	Nettleleaf goosefoot	(B) <i>Chenopodium murale</i>
217	Prickly lettuce	(B) <i>Lactuca serriola</i>
218	Prostrate knotweed	(B) <i>Polygonum aviculare</i>
219	Prostrate pigweed	(B) <i>Amaranthus blitoides</i>
220	Red brome	(B) <i>Bromus rubens</i>
221	Red sorrel	(B) <i>Rumex acetosella</i>
222	Redroot pigweed	(B) <i>Amaranthus retroflexus</i>
223	Redstem filaree	(B) <i>Erodium cicutarium</i>
224	Shepherd's purse	(B) <i>Capsella bursa-pastoris</i>
225	Turkey mullein	(B) <i>Croton setigerus</i>
226	White horehound	(B) <i>Marrubium vulgare</i>
227	Whitestem filaree	(B) <i>Erodium moschatum</i>
228	Wild mustard or Charlock mustard	(B) <i>Sinapis arvensis</i>
229	Alkali mallow	<i>Malvella leprosa</i>
230	Barnyardgrass	<i>Echinochloa crusgalli</i>
231	Bearded sprangletop	<i>Leptochloa fascicularis</i> <i>Leptochloa fusca</i> ssp. <i>fascicularis</i>
232	Bermudagrass	<i>Cynodon dactylon</i>

Code Common Name

- 233 Blessed milkthistle
- 234 Bristly oxtongue
- 235 Catchweed bedstraw
- 236 Cheeseweed or Little mallow
- 237 Clotbur
- 238 Cocklebur
- 239 Common foxtail
- 240 Common lambsquarters
- 241 Common purslane
- 242 Common sunflower
- 243 Curly dock or Sour dock
- 244 Hairy fleabane
- 245 Hairy nightshade
- 246 Henbit
- 247 Italian ryegrass
- 248 Lanceleaved groundcherry
- 249 Ripgut brome
- 250 Russian thistle
- 251 Soft chess
- 252 Spotted spurge
- 253 Velvetleaf
- 254 Wild oat
- 255 Wild radish

PROHIBITED NOXIOUS WEEDS

- 256 Perennial pepperweed
- 257 Russian knapweed
- 258 Silverleaf nightshade

RESTRICTED NOXIOUS WEEDS

- 259 Bull thistle
- 260 Common St. Johnswort
- 261 Dodder
- 262 Field bindweed
- 263 Field sandbur
- 264 Italian thistle
- 265 Johnsongrass
- 266 Medusahead
- 267 Nutsedge

- 268 Puncturevine
- 269 Yellow starthistle

Botanical Name

- Silybum marianum*
- Picris echioides*
- Galium aparine*
- Malva parviflora*
- Xanthium spinosum*
- Xanthium strumarium*
- Hordeum murinum*
- Chenopodium album*
- Portulaca oleracea*
- Helianthus annuus*
- Rumex crispus*
- Conyza bonariensis*
- Solanum sarrachoides*
- Lamium applexicaule*
- Festuca perennis*
- Physalis lancifolia*
- Bromus rigidus*
- Salsola tragus*
- Bromus mollis*
- Euphorbia maculata*
- Abutilon theophrasti*
- Avena fatua*
- Raphanus raphanistrum*

- Lepidium latifolium*
- Acroptilon repens*
- Solanum elaeagnifolium*

- Cirsium vulgare*
- Hypericum perforatum*
- Cuscuta spp.*
- Convolvulus arvensis*
- Cenchrus incertus*
- Carduus pycnocephalus*
- Sorghum halepense*
- Elymus caput-medusae*
- Cyperus esculentus*
- Cyperus rotundus*
- Tribulus terrestris*
- Centaurea solstitialis*

GENERAL SEED SCORECARD

(Values allotted sub-heads need not necessarily total the same as the main heads).

SMALL SEEDED LEGUMES SCORECARD (Alfalfa, Ladino Clover, etc.)

Reproducible factors.	
Freedom from noxious weeds	40
Freedom from common weeds	20
Freedom from other crop seeds	5
Non-reproducible factors.	
Freedom from damage	10
Plumpness	10
Luster	10
Freedom from inert material	5

Freedom from Noxious, Other Crop, and Common Weeds

Noxious, other crop, and common weed seeds in the samples will be selected from the list found in the Agronomy section of the Curricular Code.

Plumpness

Shrunken seed of an unnatural brown color due to immaturity, rain damage, insect damage and such other environmental factors that will result in low viability.

Luster

A dull lifeless appearance is apt to be due to weathering or age and is an indication of low viability. A dull, reddish tinge is an indication of extreme age.

Freedom from Inert Material

Includes chaff, stems, dirt, and small parts of broken seeds.

FOR CROPS OTHER THAN SMALL SEED LEGUMES

Reproducible factors.	
Freedom from noxious weeds	25
Freedom from common weeds	20
Freedom from mixture of other crops	15
Freedom from mixture of varieties	10
Non-reproducible factors.	
Maturity	10
Natural color	5
Uniformity	5
Freedom from damage	5
Freedom from foreign material	5

NOTE:

These scorecards should not be used as a means of assigning numerical values to sample and placing them according to this value. The main use is to supplement good judgment in comparative evaluation of the various factors.

The official guide for the State Finals Agronomy Contest is: Composite list of Weeds, 1989 revised edition, Standardized Common Names, published by Weed Science Society of America.

INSECT IDENTIFICATION (50 points)

Five samples will be identified according to insect name, life cycle, economic impact, and mouthpart.

Scorecard	Member Answer	Possible Points	Member score	Possible Answers Name
1. ID #		4		11 Alfalfa weevil
Economic Impact#		2		12 Aphids
Life Cycle #		2		13 Armyworm larva
Mouth part #		2		14 Assassin bug
2. ID #		4		15 Bean leaf beetle
Economic Impact#		2		16 Blister beetle (Larva)
Life Cycle #		2		17 Blister beetle (Adult)
Mouth part #		2		18 Boll weevil
3. ID #		4		19 Chinch bug
Economic Impact#		2		20 Colorado potato beetle
Life Cycle #		2		21 Corn ear worm larva
Mouth part #		2		22 Corn rootworm larva
4. ID #		4		23 Cricket
Economic Impact#		2		24 Cutworm larva
Life Cycle #		2		25 European corn boer larva
Mouth part #		2		26 Flea beetle
5. ID #		4		27 Grain weevil
Economic Impact#		2		28 Grasshopper
Life Cycle #		2		29 Green lacewing
Mouth part #		2		30 Honeybee
Economic Impact				31 Japanese beetle
1 None or predatory				32 Lady beetle larva
2 Fruit/Flower destruction				33 Leaf skeletonizer
3 Vegetative destruction				34 Leafhopper
4 Removal of plant fluids				35 Lygus
Life Cycle				36 Mexican bean beetle
C Complete				37 Pink bollworm larva
I Incomplete				38 Salt marsh caterpillar
N None				39 Scale
Mouth Parts				40 Spider mite
1 Chewing				41 Spittlebug
2 Chewing-lapping				42 Spotted cucumber beetle
3 Rasping-sucking				43 Stink bug
4 Piercing-sucking				44 Tobacco/tomato hornworm larva
5 Sponging				45 Western corn rootworm beetle
6 Siphoning				46 Western flower thrip
				47 White grub
				48 Whitefly
				49 Wireworm
Total Score:		50		

Insect List

	Insect	Economic Impact	Life Cycle	Mouth Parts
11.	Alfalfa weevil	Vegetative Part Destruction	Complete	Chewing
12.	Aphids	Removal of Plant Fluids	Incomplete	Piercing-Sucking
13.	Armyworm larva	Vegetative Part Destruction	Complete	Chewing
14.	Assassin bug	None or Predatory	Incomplete	Piercing-Sucking
15.	Bean leaf beetle	Fruit/Flower Destruction & Vegetative Part Destruction	Complete	Chewing
16.	Blister beetle (larvae)	None or Predatory	Complete	Chewing
17.	Blister beetle (adult)	Vegetative Part Destruction	Complete	Chewing
18.	Boll weevil	Fruit/Flower Destruction	Complete	Chewing
19.	Chinch bug	Removal of Plant Fluids	Incomplete	Piercing-Sucking
20.	Colorado potato beetle	Vegetative Part Destruction	Complete	Chewing
21.	Corn earworm larva	Fruit/Flower Destruction & Vegetative Part Destruction	Complete	Chewing
22.	Corn rootworm larva	Vegetative Part Destruction	Complete	Chewing
23.	Cricket	Fruit/Flower Destruction	Incomplete	Chewing
24.	Cutworm larva	Vegetative Part Destruction	Complete	Chewing
25.	European corn borer larva	Fruit/Flower Destruction & Vegetative Part Destruction	Complete	Chewing
26.	Flea beetle	Vegetative Part Destruction	Complete	Chewing
27.	Grain weevil	Fruit/Flower Destruction	Complete	Chewing
28.	Grasshopper	Vegetative Part Destruction	Incomplete	Chewing
29.	Green lacewing	None or Predatory	Complete	Chewing
30.	Honeybee	None or Predatory	Complete	Chewing-Lapping
31.	Japanese beetle	Fruit/Flower Destruction & Vegetative Part Destruction	Complete	Chewing
32.	Lady beetle larva	None or Predatory	Complete	Chewing
33.	Leaf skeletonizer	Vegetative Part Destruction	Complete	Chewing
34.	Leafhopper	Removal of Plant Fluids	Incomplete	Piercing-Sucking
35.	Lygus	Fruit/Flower Destruction & Vegetative Part Destruction	Incomplete	Piercing-Sucking
36.	Mexican bean beetle	Fruit/Flower Destruction & Vegetative Part Destruction	Complete	Chewing
37.	Pink bollworm larva	Fruit/Flower Destruction	Complete	Chewing
38.	Salt marsh caterpillar/wooly worm	Vegetative Part Destruction	Complete	Chewing
39.	Scale	Removal of Plant Fluids	Incomplete	Piercing-Sucking
40.	Spider mite	Vegetative Part Destruction	Incomplete	Rasping-Sucking
41.	Spittlebug	Removal of Plant Fluids	Incomplete	Piercing-Sucking
42.	Spotted cucumber/Southern corn rootworm beetle	Fruit/Flower Destruction & Vegetative Part Destruction	Complete	Chewing
43.	Stinkbug	Removal of Plant Fluids	Incomplete	Piercing-Sucking
44.	Tobacco/tomato hornworm larva	Fruit/Flower Destruction & Vegetative Part Destruction	Complete	Chewing

45.	Western corn rootworm beetle	Fruit/Flower Destruction & Vegetative Part Destruction	Complete	Chewing
46.	Western flower thrip	Fruit/Flower Destruction & Vegetative Part Destruction	Incomplete	Rasping-Sucking
47.	White grub	Vegetative Part Destruction	Complete	Chewing
48.	Whitefly	Vegetative Part Destruction & Removal of Plant Fluid	Complete	Piercing-Sucking
49.	Wireworm	Vegetative Part Destruction	Complete	Chewing

Disorders and Diseases

Five samples will be identified according to category, causal agent, and damage location.

Scorecard

	<i>Member Answer</i>	<i>Possible Points</i>	<i>Member score</i>	<i>Possible Answer</i>
1. Causal Cat. #		3		Causal Category C Cultural B Biological E Environmental
Agent#		4		
Plant Part Damaged #		3		
2. Causal Cat. #		3		Agents 10 Fungus 11 Chemical 12 Mechanical 13 Compaction 14 Nematodes 15 Bacteria 16 Insect 17 Nutritional 18 Drought 19 Pollution 20 Flood 21 Heat 22 Virus
Agent#		4		
Plant Part Damaged #		3		
3. Causal Cat. #		3		
Agent#		4		
Plant Part Damaged #		3		
4. Causal Cat. #		3		Parts of Plant Damaged 1 No Damage 2 Fruit or Flower 3 Vegetative Parts 4 Vascular Bundles 5 More than one area
Agent#		4		
Plant Part Damaged #		3		
5. Causal Cat. #		3		
Agent#		4		
Plant Part Damaged #		3		
Total Score:		50		

BEST INFORMED GREENHAND

Revised 6/2024

Purpose and Standards

The objective of the Best Informed Greenhand contest is to understand the aims, purposes, history, and structure of the Local, State, and National FFA student organizations and know the opportunities it makes available as referenced in the current National FFA Manual and State Constitution.

Foundation Standards: Career Planning and Management 3.4, Problem Solving and Critical Thinking 5.3, Leadership and Teamwork 9.2, 9.3, 9.6, Technical Knowledge and Skills 10.1.

Contestants

- Contest participants will be freshmen agricultural education students who are FFA members.
- Teams shall consist of three to five members. The scores of the three highest team members shall be used for the team score. All team members are eligible for individual awards.
- Each chapter is limited to one team entry in their section. The number of alternates in a section contest will be determined by the section's CATA.

Classes

The State Finals Test will be divided into four sections.

Section	Individual Points	Team Points
Matching Questions	50	150
Multiple Choice Questions	50	150
True/False Questions	50	150
Fill-in Questions	50	150
TOTAL	200	600

Tie Breaker

Ties will be broken in the following manner:

Individual Ties:

- First Step - High Score Matching Questions
- Second Step - High Score Multiple Choice Questions
- Third Step - High Score True False Questions
- Fourth Step - High Score Fill-in Questions

Team Ties:

- First Step-High Score Matching Questions
- Second Step-High Score Multiple Choice Questions
- Third Step-High Score True False Questions
- Fourth Step-High Score Fill-in Questions

Sub-contest Awards

Sub-contest awards will be given for high teams and individuals in the following areas: Matching Questions, Multiple Choice Questions, True/False Questions, and Fill-in. Questions

Rules

- I. The State Finals contest will consist of a 200 questions, 200 point, written examination based on the most current official FFA Manual and State Constitution. The State Finals Test will be divided into four sections. There will be Matching section consisting of 50 questions, there will be a Multiple Choice section consisting 50 questions, there will be a True/False section consisting of 50 questions, and there will be a Fill-in section consisting of 50 questions. Officer and advisor names at the State and National level may be included. In addition, the sectional contest may include sectional, and regional officer and advisor names. Questions may also be created from the FFA Leadership tab on the FFA.org website and the Leadership Boards and Committees tab on the Calaged.org website.
- II. The State Test will be written each year by the current State FFA Officer team under the supervision of the Assistant State FFA Advisor.
- III. The sectional test will be written and administered by the host school sponsoring the contest under the advisement of their Sectional CATA Officers. In the event the host school has a team participating in the contest, then the Sectional CATA Officers will make the necessary arrangements to insure a fair and impartial test will be administered.
- IV. Contestants will be allowed two hours and 15 minutes to take the test, 30 minutes each for the true/false, matching and multiple choice sections and 45 minutes for the fill-in questions.
- V. Contestants will not be allowed to use any materials to assist them during the contest.
- VI. Scoring and Grading
 - A. The current Assistant State FFA Advisor will oversee the scoring and grading of the State Finals Test.
- VII. Official dress code will be required.
- VIII. Award Recognition:
 - A. Sub Contest Awards will be included in the results packet handed out at the conclusion of the awards ceremony.
 - B. Sub Awards are to include the following: In each section of the State Finals Test, (matching, multiple choice, true/false, and fill-in) the top five individuals shall be recognized. In each section of the State Finals Test, (matching, multiple choice, true/false, and fill-in) the top five teams shall be recognized.

CALIFORNIA WATER

Revised 6/2023

Purpose and Standards

The California Water event seeks to develop students' understanding of the importance and history of water usage, storage, and distribution and how it affects California agriculture. As issues related to water in the state become even more complex, it is vital the those entering the agriculture industry have a general understanding of how the federal and state water systems operate, how the history of water issues affect agriculture today.

California Career Technical Education Model Curriculum Standards addressed by this event include:

Academic Standards: English Language Arts: 9-10.3, 9-10.4, 9-10.5, 9-10.7, 11-12.3. History and Geography: 11.6.3. History/Social Science: 12.1.1, 12.1.4. Science: ESS2, ESS3

Anchor Standards: Technology 4.5, Responsibility and Flexibility 7.8, Ethics and Legal Responsibilities 8.2, Technical Knowledge and Skills 10.1.

Agricultural Business Pathway Standards: A2.1, A5.1, A6.1. Agriscience Pathway Standards: C1.5, (C2.1-2.4). Forestry and Natural Resources Pathway Standards: E6.1, 6.4, 6.5. Plant and Soils Science Pathway Standards: (G8.1 – G8.3).

Contestants

- Teams shall consist of three to five members. The scores of the three highest team members shall be used for the team score. All team members are eligible for individual awards.
- To be eligible for the State Contest, a chapter must have participated in a Sectional California Water Contest during the current school year. All teams participating at the sectional contest are eligible to compete at the state contest. Each Sectional contest host school will submit a list of chapters and individuals participating at the sectional contest to state staff.

Classes

Class	Individual Points	Team Points
True/False	50	150
Matching	50	150
Total	100	300

Tie Breaker

- Ties between individuals and teams will be broken by the respective individuals or team scores on the true/false questions.
- If a tie still exists, the score of the individuals or team scores on the multiple-choice questions will be used.

Rules

- I. The contest consists of a 100-point written examination, which will be made up of 50 true/false and 50 multiple-choice questions, based on materials listed in the References section below.
- II. Contest emphasis is on the subjects of a general knowledge of the following is required:
 - A. The history/timeline of California water infrastructure development

- B. Knowledge of the major California water system components to include watersheds, rivers, San Joaquin/Sacramento Delta, dams, reservoirs, pumping stations, canals, aqueducts, groundwater aquifers
 - C. Agricultural, urban and environmental water use statistics
 - D. Government agencies and water districts role in water management
 - E. State Water Project (SWP) history
 - F. Central Valley Project (CVP) history
 - G. Groundwater information
- III. A chapter may bring up to 10 individuals to a sectional contest. All participants will be eligible for individual awards. The three highest scoring individuals from a chapter will comprise a team.
- IV. There is a minimum of two teams required to hold a valid sectional contest.
- V. To be eligible for the state contest a team must have participated in a valid sectional marketing contest during the current school year. All teams participating at the sectional contest are eligible to compete at the state contest.
- VI. In the event a local chapter is the only chapter within a section wishing to participate in the competition and qualify for state finals, that chapter team shall be allowed to participate in a valid sectional contest in another section. The section in which that chapter shall participate shall be determined by the Regional Supervisor of Agricultural Education prior to the section contest.
- VII. References: The following references will be used to develop question for the test. Only information provided on the pages listed below can be used to generate questions. **Links to separate pages within these pages will not be used unless specifically added to this list.:**
- A. <https://www.watereducation.org/aquapedia/california-water-timeline>
 - B. <https://water.ca.gov/Programs/State-Water-Project/SWP-Facilities/History>
 - C. <https://www.watereducation.org/aquapedia/california-aqueduct>
 - D. <https://www.watereducation.org/aquapedia/dams>
 - E. <https://www.watereducation.org/aquapedia/sacramento-river>
 - F. <https://www.watereducation.org/aquapedia/sacramento-san-joaquin-delta>
 - G. <https://www.watereducation.org/aquapedia/delta-mendota-canal>
 - H. <https://water.ca.gov/Programs/State-Water-Project>
 - Operations
 - Environmental Roles
 - Management
 - 1. <https://water.ca.gov/Programs/State-Water-Project/SWP-Facilities>
 - a. California Aqueduct
 - b. Dams/Reservoirs
 - Oroville
<https://water.ca.gov/Programs/State-Water-Project/SWP-Facilities/Oroville>
 - San Luis
<https://water.ca.gov/Programs/State-Water-Project/SWP-Facilities/San-Luis>
 - c. Pumping Plants
 - Edmonston Pumping Plant
 - Harvey O. Banks Pumping Plant
 - J. Central Valley Project
 - 1. <https://www.usbr.gov/mp/mpr-news/docs/factsheets/cvp.pdf>
 - 2. <https://www.usbr.gov/projects/index.php?id=506>
 - a. General
 - b. History
 - c. Plan
 - K. <https://www.watereducation.org/aquapedia/aquifers>

CITRUS JUDGING

Revised 6/2024

Purpose

The Citrus Contest seeks to effectively prepare students for the expectations of the citrus industry. Workers seeking career in the citrus industry must develop a high degree of knowledge and skill in industry standards as well as critical thinking, oral communication, and plant biology. The knowledge gained from this contest can also be applied to general fruit production. California Career Technical Education Model Curriculum Standards addressed by this event include:

Foundation Standards: Academics 1.1, Communication 2.0, Listening and Speaking 1.1, 2.2, 1.8, Leadership and Teamwork 9.0, and Written and Oral English Language 2.3.

Plant and Soil Science Pathway: G3.1-3.3, G4.2, G5.1-G5.2, G10.1-10.3.

Contestants

The team shall consist of three or four members. The scores of the three highest team members shall be used for the team score. All team members are eligible for individual awards.

"A" teams shall consist of members designated by the instructor, and will compete for State Championship. Only one "A" team may be entered. "B" teams shall consist of members designated by the instructor. More than one "B" team per school may enter. A school does not have to enter an "A" Team to compete in the "B" Team contest.

Classes

Class	Individual Points	Team Points
Judging Class 1	50	150
Judging Class 2	50	150
Judging Class 3	50	150
Judging Class 4	50	150
Judging Class 5	50	150
Judging Class 6	50	150
Judging Class 7	50	150
ID Class 8	100	300
Reasons Oranges	50	150
Reasons Trees	50	150
Reasons (Lemons/Mandarins)	50	150
TOTAL	600	1800

Tie Breaker

1. The team or individual scoring the highest reason score(s) will be the winner.
2. When all possible means for breaking ties have been exhausted, the total score of the individual or team will be used to determine the high individual or team.

Sub-contest Awards

Sub-contest awards will be given for high teams and individuals in the following areas: Oranges, Lemons or Mandarins, Nursery Trees, ID, and Non-reasons Citrus (grapefruit & other non-reasons citrus, ie. lemons or mandarins). Reasons will be included in their respective class sub-contests.

Host School Requirements

Host school will provide an "A" contest and a "B" contest, with the "A" contest designated as the state finals contest.

Rules

- I. There will be eight classes in the contest and reasons will be given on three classes. The classes in rotation are oranges, lemons, mandarins and citrus nursery trees. Reasons will be given on one class of oranges, one class of nursery trees and one class of either lemons or mandarins. Contestants will not be informed what the reasons classes will be until the day of the contest. Four of the remaining classes will be selected from oranges, lemons, grapefruit, mandarins and nursery trees. The eighth class will be an ID class.
- II. Each fruit class consists of four plates of fruit 1, 2, 3, 4. On each plate there will be four whole fruits and one cut fruit. The center cut sections are to represent the inside quality of the whole fruits on the plate.
- III. In the citrus nursery tree class there will be four groups of trees. Each group will consist of three trees and one bare root tree which will represent the root system of the group.
- IV. Ten minutes will be allowed for placing each of the seven classes in the contest. From reason classes only, each contestant will go directly to the judge, and have two minutes for giving oral reasons.
- V. The ID class shall be of a matching type. It will be limited to twenty items to be identified with five points for each correctly identified item. Time limit is fifteen minutes. Objects or defects to be identified should be prominently displayed with an arrow or circle. They should also remain stationary. All samples will be placed on cups to ensure that touching and rolling of fruit does not occur.
- VI. No touching items in ID. Contest Coordinator should provide a room monitor to ensure that samples have not been moved after each rotation.
- VII. Prior to the start of the state qualifying finals, the top five coaches representing the previous year's state qualifying finals will confirm all of the classes are set up, as well as verify and agree upon the accuracy of the identification portion. Final official identification items will be determined by a majority consensus of the top five coaches represented, the CATA approved contest consultant, and the host facility contest chair.
- VIII. Definitions:
 - A class of fruit consists of four plates of fruit.
 - A plate consists of four whole fruits and one cut fruit.
 - No contestant will be permitted to move, touch, handle, or to mar in any way the cut sections on the plate.

- No contestant is permitted to pick up or move any fruit out of the tray. Contestants are permitted to roll the fruit carefully around on the tray. Failure to properly handle fruit will result in loss of score.
- Ignore all labels on the fruit.
- Packing marks are not to be considered unless they have injured the rind of the fruit.
- Questions will be answered by the group leader or contest coordinator.
- After completing a class, contestants will proceed directly to the next class and wait there until they are permitted to enter the contest room or area.

Score Card For Oranges20% TYPE (Including Shape)

Navel - Round in shape with a slight cup at the stem end. Elongated or pear shaped fruit as well as flattened or tomato shaped fruit is undesirable. Relatively small, compact and uniform navel openings are desirable. Trueness to type and uniformity of the fruit on the plate is very important.

15% COLOR

Should be of uniform reddish-orange color free from greenness around the stem or paleness covering one side or portion of one side of the fruit. Uniformity of color on the plate is very important.

20% CONDITION

Fruit should appear fresh and firm. The rind should be strong and free from puffiness or crease. The button should be green and firmly attached. The surface of the fruit should be free of bruises, scratches, punctures or defects which cause decay or pitting.

25% TEXTURE AND BLEMISHES

The texture should be strong, pebbly and free of ridges or roughness around the stem. Blemishes should be judged on how seriously they detract from the appearance of the fruit or would cause loss through decay. The following is a list of the most common blemishes or defects:

- A. Wind scars, limb rub, leaf marks, cluster marks, clipper cuts, punctures or scratches.
- B. Thrip marking, scale or scale pitting, red spider damage, aphid damage, scale smut and leaf hopper scar.
- C. Sunburn and frost damage.
- D. Dirtiness.
- E. Spray damage.

20% RIND SECTIONS

Rind should be medium in thickness without excessive rag. The core should be relatively small and compact, with open hollow core being undesirable. Orange should have well-filled juice vesicles and not show much rag between segments. Fruit sections in the center are undesirable. Freedom from seeds is desirable. The fruit should be cut transversely through the center.

Score Card For Lemons20% TYPE (Including Shape)

Shape should be ovate with typical amount of protruding stem or stylar ends for the Eureka lemon. Flat or abnormal protruding ends are undesirable. Uniformity of type on the plate is very desirable.

15% COLOR

Light lemon yellow is the most desired color. The fruit should be uniform in color and free from green, bronzed or sunburned areas. A faint green tip (stylar end) is not objectionable.

20% CONDITION

Strong, sound, and in good shipping condition. Fruit of good vitality is in more demand than fruit that has been stored until it is old. Button should be green and securely attached. Fruit should be firm and have a fresh appearance.

25% TEXTURE AND BLEMISHES

A good lemon should have a smooth, even texture. It should be free of ridges, depressions and roughness. Blemishes of any kind detract from the eye appeal of the fruit. Any blemishes that penetrate the rind and leave an opening for decay should be considered serious. The following is a list of blemishes and defects of lemons:

- A. Wind scars, bruises, scratches, clipper cuts, puncture.
- B. Spray damage.
- C. Sunburn and frost damage.
- D. Dirtiness.
- E. Insect damage.

20% CUT SECTION

The cut section should show a small, tight core. Juice vesicles should be well filled and should show no drying of the segments due to internal decline, frost or sunburn. The fewer seeds the better. Rind should be thick enough to indicate strong fruit, yet not too thick. Hollow core and puffy rind are undesirable. Flesh should be yellow in color. The fruit should be cut transversely through the center.

Score Card For Grapefruit20% TYPE (Including Shape)

The fruit should be more flat than round. Elongated fruit or fruit that protrudes at the stem end is undesirable. Uniformity of type on the plate is very important.

15% COLOR

White type grapefruit or Ruby (pink) grapefruit should be a uniform light yellow color, free from greenness or a bronze tinge. Ruby will show characteristic "blush."

20% CONDITION

Fruit should appear fresh and firm. The rind should be strong. Button should be green and firmly attached. The entire surface of the fruit should be free of bruises, scratches, punctures or defects which cause decay or pitting

25% TEXTURE

Texture of the grapefruit should be smooth and uniform over the entire surface of the fruit. The grapefruit should be free of roughness and coarseness. Blemishes on the grapefruit are undesirable. The following are the most common blemishes found on grapefruit:

- A. Wind scars, limb rub, leaf mark, cluster marked.
- B. Thrip marking, scale or scale marking, scale smut.
- C. Sunburn, frost damage
- D. Dirtiness.
- E. Spray damage

20% CUT SECTION

The cut section of the grapefruit should show a medium thin rind and a tight core without excessive rag. The segments of the fruit should be large and uniform. The juice vesicles should be well filled with a minimum of rag between segments. The fruit should be seedless. Color of flesh should be a light yellow in white type grapefruit or blush pink in Ruby Red fruit. The fruit should be cut transversely through the center.

Score Card for Mandarins**20% TYPE (Including Shape)**

W. Murcott or Tango mandarins should be ovoid to flattened in shape. Elongated or pear shaped fruit is undesirable. Trueness to type and uniformity on the plate is very important.

15% COLOR

The color should be of uniform reddish-orange color free from excessive greenness (less than 20% can have a green blush). Uniformity of color on the plate is very important.

20% CONDITION

Fruit should appear fresh and firm. The rind should be strong and free from puffiness or creases. The button should be green and firmly attached. The surface of the fruit should be free of bruises, scratches, punctures, or defects which can cause decay or pitting.

25% TEXTURES AND BLEMISHES

The texture should be smooth and free of ridges or roughness around the stem. Blemishes should be judged on how seriously they detract from the appearance of the fruit or would cause loss through decay. The following is a list of the most common blemishes or defects:

- A. Wind scars, limb rub, leaf marks, cluster marks, clipper cut, punctures, or scratches
- B. Thrip markings, scale or scale pitting, red spider mite damage, aphid damage, scale smut, and leaf hopper scar.
- C. Sunburn and freeze damage
- D. Dirtiness
- E. Spray damage or spray residue

20% CUT SECTION

Rind should be medium thickness without excessive rag. The core should be relatively small compact with a small hollow core. Mandarins should have well-filled juice vesicles and not show much rag between segments. The fewer seeds the better. Brilliancy of the cut section is desirable. The fruit should be cut transversely through the center.

Citrus Nursery Tree Score Card

- A. Bud Union and Trunk - 30%
1. The bud union should be well healed with the bud showing a uniform healing around the rootstock.
 2. The bud union should show either no scar from the cutting of the rootstock or a clean cut. No stub should be seen.
 3. The bud union should be free from evidence of sunburn.
 4. The bud union should be no less than 6" above the soil or root ball and no more than 12".
 5. The trunk should be straight, showing uninterrupted growth, as evidenced by the growth nodes on the trunk. If growth nodes exist, there should be no more than 2.
 6. The trunk should be free of mechanical injury, sunburn, disease, insect pests and any scars.
 7. The size of the trunk should be 7mm to 10mm in diameter, one inch above the bud union.
 8. The tree ties should have staples (if present) against the stake, not the trunk. The ties should be snug, but not girdling the tree.
 9. There should be no evidence of die-back.
 10. The trunk should be lignified no less than $\frac{3}{4}$ of the length of the trunk above the bud union.
- B. Root System - 30%
1. Each tree should have a well-developed, straight root system.
 2. Branch and fibrous roots should be numerous, and throughout the entire root ball, so thick it would be difficult to see the tap roots.
 3. The root system should be free from evidence of disease, insect and rodent damage, mechanical injury, and should be of healthy, straw-yellow color or white color.
 4. The bottom of the root ball should have no benched or circling roots.
- C. Foliage - 20%
1. The foliage should be large, have a uniform healthy dark green color, free from evidence of pest damage and any nutrient deficiencies.
 2. A "ready" tree should have foliage the full length of the trunk. From the bud union to the tree's top.
 3. Evidence of new growth in the top 4"-6" is best in class.
- D. Container - 20%
1. The container should be free from cracks or rips and protruding roots.
 2. The soil should be moist.
 3. Distance from the top of the container to the top of the soil should be 1" for the uniform water penetration into the root ball. Greater than 1" is not acceptable.
 4. There should be no exposed roots on the soil surface or protruding from the bottom of the container.
 5. There should be no visible weeds in the container.

Scorecard for Matching Identification

Twenty items to be identified will be selected from the list below. No other items will be included in the ID portion.

- | | | FRUIT OR TREES | | |
|-----|----------------------------|----------------|----------------------------------|--|
| 1. | Aphid damage | 26. | Mechanical damage | |
| 2. | Bench root | 27. | Mineral deficiency | |
| 3. | Black Sooty mold | 28. | Mite damage (silvering of fruit) | |
| 4. | Blue/Green mold | 29. | Off color fruit | |
| 5. | Botrytis fungus | 30. | Off shape fruit | |
| 6. | Brown rot | 31. | Oleocellosis | |
| 7. | Chimera | 32. | Packing marks | |
| 8. | Citricola Scale | 33. | Peel miner damage | |
| 9. | Clear Rot | 34. | Puffiness | |
| 10. | Clipper marks | 35. | Punctures | |
| 11. | Cluster marks | 36. | Red scale | |
| 12. | Cottony cushion scale | 37. | Ridges | |
| 13. | Creases | 38. | Rootstock sucker | |
| 14. | End check | 39. | Septoria spot | |
| 15. | Freeze damage | 40. | Sheepnose fruit | |
| 16. | Granulation | 41. | Snail damage | |
| 17. | Hail damage | 42. | Spray damage | |
| 18. | Headed tree | 43. | Split skin | |
| 19. | Ice marks | 44. | Sunburn | |
| 20. | Improper root system | 45. | Thrips damage | |
| 21. | Katydid/grasshopper damage | 46. | Wind scar | |
| 22. | Leafhopper damage | 47. | Whip tree | |
| 23. | Leaf mark | 48. | Earwig damage | |
| 24. | Leaf miner damage | 49. | Alternaria | |
| 25. | Limb marks | 50. | Retained blossom | |

Revised 12/2023**Purpose**

The Cotton contest seeks to effectively prepare the students for the expectation of the cotton industry. Workers seeking careers in cotton must not only develop a high degree of knowledge and skill, they must also develop the ability to solve difficult problems. This contest blends the critical thinking, mathematical, and plant biology knowledge and skills along with the ability to express oneself through oral communication. The knowledge gained from this contest can also be applied to general crop production. California Career Technical Education Model Curriculum Standards addressed by this event include:

Foundation Standards: Academics 1.1 Mathematics 15.0, 8.0, 11.0, 1.3 History-Social Science 12.2.2, 12.2.5, 12.2.6, 12.2.7, 12.2.10, 2.0 Communication, 2.4 Listening and Speaking 1.1, 2.2, 1.8, 9.0 Leadership and Teamwork.

Plant and Soil Science Pathway Standards: G 1.0 - G1.1, G1.3, G1.5, G1.6, G3.0 - G3.1, G3.2, G3.3, G3.4, G3.5, G3.6, G 5.0 - G5.1, G5.2, G5.3, G5.4, G5.5, G 6.0 - G6.1, G6.2, G 7.0 - G7.1, G7.2, G10.0 - G10.1, G10.3, and G11.0 - G11.1, G11.3, G11.4.

Contestants

The team shall consist of three or four members. The scores of the three highest team members shall be used for the team score. All team members are eligible for individual awards.

"A" teams shall consist of four members, the three highest scores will count as the team score, and will compete for State Championship. Only one "A" team may be entered. More than one "B" team per school may enter. Any other members, e.g., alternates not on the "A" or "B" teams may also participate in the "B" contest.

Classes

Class	Individual Points	Team Points
Plants	50	150
Open Bolls	50	150
Cotton Lint	50	150
Cotton Seed	50	150
Plant Reasons	50	150
Open Boll Reasons	50	150
Cotton Lint Reasons	50	150
Cotton Seed Reasons	50	150
Quiz	100	300
TOTAL	500	1500

Tie Breaker

Judging - Overall Contest

1. Individual or team total reasons score.
2. Individual or team examination score.

Judging – Sub--contests

1. Individual or team reasons score for that sub-contest.
2. Individual or team total reasons score.
3. Individual or team total overall score.

Quiz

1. Individual or team total reasons score.
2. Individual or team overall score.

Sub-contest Awards

Sub-contest awards will be given for high teams and individuals in the following areas: Plants, Open Bolls, Lint, Seed, Quiz (Reasons included in respective class sub-contests).

Rules

- I. Time
 - A. Quiz - Fifty (50) minutes shall be allowed.
 - B. Judging - Twelve (12) minutes shall be allowed for each of four (4) classes of four (4) samples each.
 - C. Reasons - Two (2) minutes shall be allowed for giving reasons on each class.
- II. Judging samples may not be touched or handled in any way.
- III. Outline of the Contest
 - A. A 100-point quiz will emphasize the practical and important aspects of cotton growing, harvesting, ginning, and marketing; the factors used in judging the quality of plants, bolls, seeds and lint; and the kinds of things a cotton farmer is expected to know about cotton in California.
 1. The 100-point quiz shall consist of thirty (30) True/False questions of two (2) points each and twenty (20) multiple choice questions of two (2) points each.
 2. Scoring shall be done on Scantron answer sheet provided. All contestants bring a No. 2 pencil for this.
 - B. The critique will cover all classes and the test. All schools entering the contest will be mailed a copy of last year's quiz.
 - C. The judging classes will be selected to show both desirable and undesirable qualities in each of the classes with sufficient and recognizable differences to be put in logical order of merit with sound reasons for the placing.
 1. Only Upland cotton (*Gossypium Hirsutum*), Pima Cotton (*Gossypium Barbadosense*), or Acala Hybrid will be judged. The species of each class will be determined by the host and labeled as such. Each class must contain only one specie. Questions on the quiz will involve both Pima and Upland cotton.
 2. Judging and Reasons - 400 points total (50 for placing and 50 for reasons in each of the four (4) judging classes).
 3. The following score cards are provided as a guide for judging and are not considered empirical.
 - D. Reasons scores based on content and oral presentation. (approximately 50% of each)
- IV. Judging Score Card Guide
 - A. PLANTS - Four (4) entries each representing four (4) feet of row.

1. Score Card
 - a) Plants - moderate (3-4 feet) uniform height, symmetrical, free of disease, many fruiting limbs well distributed, machine harvest type 30%
 - b) Production - indicated by many well developed bolls, starting with the first fruiting position on the branch. 40%
 - c) Bolls - abundant, uniformly mature, uniformly distributed, large, free of insect and disease damage. 20%
 - d) Exhibition - plants well defoliated, bolls clean, uniform plants. 10%
- B. OPEN BOLLS - Four (4) entries of twenty (20) bolls each, displayed with ten bolls in the upright position and ten bolls down in one display case.
 1. SCORE CARD
 - a) Size of bolls - large, well opened ready for harvest. 20%
 - b) Uniformity of bolls, all mature. 20%
 - c) Color - white to creamy preferred. 20%
 - d) Condition - free from damage of insects and disease, free from immature fibers, free from stains. 20%
 - e) Display - free from trash, well displayed and trimmed. 20%
- C. COTTON LINT - No stapling of cotton will be required. Judge only the top surface of each entry.
 1. Score Card
 - a) Color - brilliant white color free from stains, spots, or discoloration. 35%
 - b) Trash - (leaf and extraneous matter) - free from foreign materials such as leaf, grass, motes, etc. (Pin or pepper leaf is worse than large leaf). 30%
 - c) Preparation - smoothly ginned and free from neps and naps, and rough appearance. 35%
- D. COTTON SEED - Four (4) samples of approximately one (1) pound each of gin-run seed. Judge only the top surface of each entry.
 1. Score Card
 - a) Maturity - plump, good weight, quality of linters (fibers bright and resilient) full-bodied meats. 30%
 - b) Trash - clean, free from sticks, stems, motes, cross contamination, and leaf trash. Free from weed seeds. 20%
 - c) Uniformity - freedom from pinched thin blank seeds, uniform linters on seeds. 20%
 - d) Condition - free from discoloration or weathering of linters or seeds. Amount of lint (excess lint remaining on seed is undesirable). Freedom from damaged kernels (heat or cracked), overall general appearance. 30%
- V. References: The following references may be helpful in learning more about quality cotton production:
 - A. University of California Cooperative Extension Publications dealing with: Cotton Irrigation, Harvesting; Diseases; Quality; Chemical Harvest Aids. A current list of the publications is contained in the "Agricultural Publications Catalog", which is updated annually and is available from: Publications, University of California, 6701 San Pablo Ave, Oakland, CA 94608-1239. Telephone 1-800-994-8849. The University of California Cooperative Extension Publications, Cotton Production – the red covered book, shall supersede all other books.
 - B. The Classification of Cotton U.S.D.A., Agricultural Handbook 556 (1993).

- C. Issues of cotton industry publications; ie. Cotton Grower Farming, California Farmer, California-Arizona Farm Press, Western Farm Press, The Cotton Chronicle from California Cotton Ginners, and Growers Association. The last date of publication must be a minimum of 30 days and a maximum of 1 year.
- D. Issues of California Cotton Review, a newsletter published periodically by Cooperative Extension, University of California, Oakland, CA 94612-3650, published in the last nine months.

CREED RECITATION

Revised 6/2017

Purpose and Standards

The FFA Creed outlines the organization's beliefs regarding the agricultural industry, FFA membership and the value of citizenship and patriotism. The FFA Creed is recited by FFA members, as part of the requirements to earn the Greenhand Degree. The purpose of the Creed Speaking Career Development Event is to develop the public speaking abilities of 7th, 8th, and 9th grade FFA members as well as develop their self-confidence and contribute to their advancement in the FFA degree program.

Foundations Standards: 2.0 Communications, 3.0 Career Planning and Management, 4.0 Technology, 5.0 Problem Solving and Critical Thinking, 9.0 Leadership and Teamwork, 10.0 Technical Knowledge and Skill, and 11.0 Demonstration and Application.

Contestants

1. Each section will determine how many chapter members may participate at the sectional level. Each region will determine how many sectional participants may compete at the regional level. Participation at the state level is limited to the top 50% of those that participate in the regional contest (or major portion thereof), with a maximum of four (4) per region.
2. Members who are at the 7th, 8th, and 9th grade level shall be eligible to participate in the Creed Recitation Contest.

Tie Breaker

Ties will be broken based on the greatest number of low ranks. Participant's low ranks will be counted and the participant with the greatest number of low ranks will be declared the winner. If a tie still exists, then the event superintendent will rank the participant's response to questions.

Rules

- I. The State Finals shall be conducted prior to, or during the State FFA Convention. Appropriate recognition shall be given to section, region, and state winners.
- II. Each participant must recite the FFA Creed from memory as found in the latest edition of the Official FFA Manual.
- III. Official FFA Manual.
- IV. No manuscript or written material shall be used by the participant.
- V. Each participant shall begin the presentation by stating, "The FFA Creed by E.M. Tiffany." Each participant should end the presentation with the statement, "...that inspiring task. Thank you." Additional introductory or concluding remarks will result in accuracy deductions as indicated on the scorecard.
- VI. Each participant will be asked three questions per round with a five-minute time limit.
- VII. The same questions will be asked of each participant. Contest host shall segregate those yet to compete from all others. Questions containing two or more parts will be avoided.
- VIII. The supervisor of the state creed contest will determine, write and provide the judges with questions to be asked of the participants in all rounds at the state, regional and sectional level. More than three questions may be submitted but only three are to be asked. The questions must pertain directly to the contents of the current creed.

- IX. The judges shall select a designated person from within their group to act as a prompter to assist a student that falters (10 seconds) during a recitation.
- X. Participants shall be ranked in numerical order on the basis of the final score to be determined by each judge without consultation. The judges' ranking of each participant then shall be added, and the winner will be that participant whose total ranking is the lowest. Other placings will be determined in the same manner (low point score method of selection).
- XI. Awards will be given to first through sixth place contestants in the state finals.

Creed Speaking LDE Presentation Rubric (100 Points)

Participant# _____

Indicators	Very strong evidence of skills is present 5-4 points	Moderate evidence of skill is present 3-2 points	Strong evidence of skill is not present 1-0 points	Points Earned	Weight	Total Points
Oral Communication - 30 points						
Pace	Speaks very articulately at rate that engages audience.	Speaks articulately but occasionally speaks too fast or has long unnecessary hesitations.	Speaks too slow or too fast to engage audience.		X 2	
Tone	Voice is upbeat, impassioned and under control	Voice is somewhat upbeat, impassioned and under control	Voice is not upbeat; lacks passion and control.		X 2	
Volume	Emitted a clear, audible voice for the audience present.	Emitted a somewhat clear, audible voice for the audience present.	Emitted a barely audible voice for the audience present.		X 2	
Non-verbal Communication - 30 points						
Eye contact	Eye contact constantly used as an effective connection. Constantly looks at the entire audience (90-100 percent of the time).	Eye contact is mostly effective and consistent. Mostly looks around the audience (60-80 percent of the time).	Eye contact does not always allow connection with the speaker. Occasionally looks at someone or some groups (less than 50 percent of the time).		X 2	
Mannerisms and gestures	Hand motions are expressive and used to emphasize talking points. No nervous habits.	Sometimes exhibits nervous habits. Hands are sometimes used to express or emphasize.	Displays some nervous habits. Hands are not used to emphasize talking points; hand motions are sometimes distracting.		X 2	
Poise	Portrays confidence and composure through appropriate body language (stance, posture, facial expressions).	Maintains control most of the time; rarely loses composure.	Lacks confidence and composure.		X 2	

Indicators	Very strong evidence of skills is present 5-4 points	Moderate evidence of skill is present 3-2 points	Strong evidence of skill is not present 1-0 points	Points Earned	Weight	Total Points
Question and Answer - 40 points						
Response to questions	Is able to respond with organized thoughts and concise answers.	Is able to speak effectively and sometimes gets off topic. Answer lacks organization.	Response fails to answer question.		X 2	
Support	Always provides details which support answers/basis of the question.	Usually provides details which are supportive of the answers/basis of the question.	Sometimes overlooks details that could be very beneficial to the answers/basis of the question.		X 3	
Knowledge of agriculture	Answer shows knowledge of agriculture.	Answer shows limited knowledge of agriculture.	Answer shows no knowledge of agriculture.		X 3	

Grand
Total Points
Time
Deduction
* Accuracy
Deduction
**** NET
TOTAL
POINTS
RANK**

*-1 point per second over, determined by the timekeepers

** - 2 points per word, determined by the accuracy judges

DAIRY CATTLE JUDGING

Revised 6/2020

Contestants

Teams consist of four members, with all four individual scores counting as the team score. All team members are eligible for individual awards.

Classes

Class	Individual Points	Team Points
Milking Class 1	50	200
Milking Class 2	50	200
Milking Class 3	50	200
Heifer Class 1	50	200
Heifer Class 2	50	200
Heifer Class 3	50	200
Reasons 1	50	200
Reasons 2	50	200
Reasons 3	50	200
Written Exam	50	200
TOTAL	500	2000

Tie Breaker

1. The team or individual scoring the highest total reasons score(s) will be the winner.
2. If a tie still exists, the total score of the individual or team will be used to determine the high individual or team.

Sub-contest Awards

Sub-contest awards will be given for high teams and individuals in the following areas: Milking, Heifers, Written Exam, and Reasons. (Milking and Heifer sub-contests include reasons for respective classes. Reasons sub-contest includes all reasons scores.)

Rules

- I. Six classes of dairy cattle, each consisting of four animals, will be judged in this contest. These classes shall be three of milking cows and three of heifers.
- II. All contestants must report on all classes and will be graded on the following basis: Correct placing - 50 points; Correct reasons - 50 points.
- III. Contestants will not be allowed to handle the animals.
- IV. Twelve (12) minutes will be allowed for placing non-reasons classes.
 - A. Seventeen (17) minutes will be allowed for placing reasons classes.
 - B. These classes will be designated before the cattle are judged.
 - C. Each contestant will give three (3) sets of reasons. Two (2) minutes will be allowed for each presentation.
- V. Written Exam – A multiple choice exam will be given. The objective exam is designed to determine team members' understanding of the dairy industry. The exam will consist of 25 multiple choice questions, valued at two points each, drawn from a compiled test bank of 200 questions based on current dairy industry trends and/or issues. The test bank will be posted to

the CATA website no earlier than December 1 and no later than January 31. The top five coaches from the previous year will maintain the test bank utilizing the advanced dairy bowl questions and other resources. Thirty (30) minutes will be given for the exam. (50 points)

EL CREDO DE LA FFA

Revised 06/2024

Purpose and Standards

The FFA Creed outlines the organization's beliefs regarding the agricultural industry, FFA membership and the value of citizenship and patriotism. The FFA Creed was written by Erwin Milton Tiffany in 1929; it was adopted by the Future Farmers of America as their official creed by the organization delegates at the third National Convention in 1930. The ideas conveyed in the five-paragraph belief statement transcend geography, language, race, and ethnicity.

In the 2010 census, 28.46% of Californian's ages five and older spoke Spanish as their primary language at home, thus recognizing a need for our members to be able to practice public speaking skills in their primary language. The Creed delivery and the five-minute question-answer period will be conducted entirely in Spanish.

Foundations Standards: 2.0 Communications, 3.0 Career Planning and Management, 4.0 Technology, 5.0 Problem Solving and Critical Thinking, 9.0 Leadership and Teamwork, 10.0 Technical Knowledge and Skill, and 11.0 Demonstration and Application.

Contestants

1. Members in grades 7-12 will be eligible to participate in their respective division. Divisions break down will be as follows: Blue Division (7th, 8th, & 9th Graders), Gold Division (10th, 11th & 12th Graders).
2. For participation requirements refer to CATA Curricular Code Rules - State Championship Contest requirements.
3. Each section will determine how many chapter members may participate at the sectional level. Each region will determine how many sectional participants may compete at the regional level. Participation at the state level is limited to the top 50% of those that participate in the regional contest (or major portion thereof), with a maximum of four (4) per region.

Tie Breaker

Ties will be broken based on the greatest number of low ranks. Participant's low ranks will be counted and the participant with the greatest number of low ranks will be declared the winner. If a tie still exists, then the event superintendent will rank the participant's response to questions.

Rules

1. A student may not participate in the Public Speaking, Extemporaneous Public Speaking, Impromptu Speaking, Job Interview, or Creed Speaking in the same year.
2. The event will include both an oral presentation as well as answering questions directly related to the Creed. The FFA Creed recitation and the response to three questions must be delivered in proper Spanish. All questions will be asked in Spanish.
3. No manuscript or written material is permitted to be used. The Creed should be presented from memory.
4. Members will present the FFA Creed as written below.
5. Each contestant shall begin the presentation by stating "El Credo de la FFA por E.M. Tiffany". Each contestant shall end the presentation with the statement "...esta inspiradora tarea.

Gracias.” Any other words spoken as part of an introduction or conclusion shall be assessed a penalty deduction of two (-2) points per word.

6. The event will be a timed activity with four minutes for presentation. After four minutes, contestants will be deducted one point for every second over set time.
7. The event will include oral questions. There will be three questions per contestant. Each contestant will be asked the same three questions. There is a five-minute time limit on answering questions. Questions will be written by the contest supervisor.
8. Participants shall be ranked in numerical order on the basis of the final score to be determined by each judge without consultation. The judges ranking of each participant then shall be added and the winner will be that contestant whose total ranking is the lowest. Other placings will be determined in the same manner (low point score method of selection)
9. Awards will be presented for each first through sixth place in each of the divisions.
10. Official dress is required for participation in this event.
11. Each school will be required to provide a judge for the competition that is fluent in Spanish.
12. Violation of any of the rules will result in the disqualification of the contestant by the contest supervisor.

Creed Speaking LDE Presentation Rubric (100 Points)

Participant# _____

Indicators	Very strong evidence of skills is present 5-4 points	Moderate evidence of skill is present 3-2 points	Strong evidence of skill is not present 1-0 points	Points Earned	Weight	Total Points
Oral Communication - 30 points						
Pace	Speaks very articulately at rate that engages audience.	Speaks articulately but occasionally speaks too fast or has long unnecessary hesitations.	Speaks too slow or too fast to engage audience.		X 2	
Tone	Voice is upbeat, impassioned and under control	Voice is somewhat upbeat, impassioned and under control	Voice is not upbeat; lacks passion and control.		X 2	
Volume	Emitted a clear, audible voice for the audience present.	Emitted a somewhat clear, audible voice for the audience present.	Emitted a barely audible voice for the audience present.		X 2	
Non-verbal Communication - 30 points						
Eye contact	Eye contact constantly used as an effective connection. Constantly looks at the entire audience (90-100 percent of the time).	Eye contact is mostly effective and consistent. Mostly looks around the audience (60-80 percent of the time).	Eye contact does not always allow connection with the speaker. Occasionally looks at someone or some groups (less than 50 percent of the time).		X 2	

Mannerisms and gestures	Hand motions are expressive and used to emphasize talking points. No nervous habits.	Sometimes exhibits nervous habits. Hands are sometimes used to express or emphasize.	Displays some nervous habits. Hands are not used to emphasize talking points; hand motions are sometimes distracting.		X 2	
Poise	Portrays confidence and composure through appropriate body language (stance, posture, facial expressions).	Maintains control most of the time; rarely loses composure.	Lacks confidence and composure.		X 2	

Indicators	Very strong evidence of skills is present 5-4 points	Moderate evidence of skill is present 3-2 points	Strong evidence of skill is not present 1-0 points	Points Earned	Weight	Total Points
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Question and Answer - 40 points						
Response to questions	Is able to respond with organized thoughts and concise answers.	Is able to speak effectively and sometimes gets off topic. Answer lacks organization.	Response fails to answer question.		X 2	
Support	Always provides details which support answers/basis of the question.	Usually provides details which are supportive of the answers/basis of the question.	Sometimes overlooks details that could be very beneficial to the answers/basis of the question.		X 3	
Knowledge of agriculture	Answer shows knowledge of agriculture.	Answer shows limited knowledge of agriculture.	Answer shows no knowledge of agriculture.		X 3	

Grand Total Points	
Time Deduction*	
Accuracy Deduction**	
Net Total Points	
Rank	

*minus one (-1) point per second over, determined by the timekeepers

** minus two (-2) points per word, determined by the accuracy judges

El Credo de la FFA por E.M. Tiffany

Creo en el futuro de la agricultura, con una fe que no nace de las palabras sino de los hechos—logros conseguidos por las generaciones presentes y pasadas de agricultores; en la promesa de días mejores a través de mejores maneras, así como creo que las mejores cosas de las que gozamos hoy han llegado a nosotros como resultado de las luchas de años anteriores.

Creo que vivir y trabajar en una buena finca, o dedicarse a otras actividades agrícolas, es agradable, y al mismo tiempo es un reto, porque conozco las alegrías e inconvenientes de la vida agrícola y mantengo una afición innata por aquellas asociaciones que no le negaré ni siquiera en horas de desaliento.

Creo en nuestro propio liderazgo y en el respeto a los demás. Creo en mi propia capacidad de trabajar de manera eficiente y de pensar con claridad, con cuantos conocimientos y habilidades pueda adquirir, y en la capacidad de los agricultores progresistas para servir nuestros propios intereses y el interés público en la producción y la comercialización del producto de nuestro trabajo.

Creo en menos dependencia de la caridad y más poder en la negociación; en la vida abundante y en que haya suficiente riqueza honesta para ayudar a que así sea—tanto para los demás como para mí; sin necesidad de caridad y más de ella cuando sea necesario; creo en ser feliz y en ser más honesto con aquellos cuya felicidad depende de mí. .

Creo que la agricultura de Estados Unidos puede y debe mantenerse fiel a las mejores tradiciones de nuestra vida nacional y que puedo ejercer influencia en mi hogar y en la comunidad, que se mantendrá firme por mi parte en esta inspiradora tarea.

Gracias

EXTEMPORANEOUS PUBLIC SPEAKING

Revised 6/2023

Purpose and Standards

The FFA Extemporaneous Public Speaking Career Development Event is designed to develop the ability of all FFA members to express themselves on a given agricultural subject without having prepared or rehearsed its content in advance. This gives the FFA members an opportunity to formulate their remarks for presentation in a very limited amount of time. The event requires students to think on their feet, state their case quickly and persuasively, and to be able to answer relevant questions based upon their presentation. California Career Technical Education Model Curriculum Standards addressed by this event include:

Foundation Standards: Communications – Reading 2.1, 2.6, 2.7, 2.8. Writing 1.1, 1.2, 2.3f, 2.5. Written and Oral English Language Conventions 1.1, 1.2, 1.3. Listening and Speaking 1.1, 1.7, 1.3 1.5, 2.2, 2.6, 1.8. Technology 4.2, 4.3, 4.5, 4.6. Problem Solving and Critical Thinking 5.1, 5.3. Health and Safety 6.1, 6.2, 6.6. Responsibility and Flexibility 7.1, 7.2, 7.3, 7.4, 7.5, 7.6. Ethics and Legal Responsibilities 8.1, 8.2, 8.3. Leadership and Teamwork 9.1, 9.2, 9.3, 9.4, 9.5, 9.6. Technical Knowledge and Skills 10.2.

Demonstration and Application – Students will demonstrate and apply the concepts contained in the foundation and pathway standards.

Contestants

- I. For participation requirements refer to CATA Curricular Code Rules - State Championship Contests requirements.
- II. Each section will determine how many chapter members may participate at the sectional level. Each region will determine how many sectional participants may compete at the regional level. Participation at the state level is limited to the top 50% of those that participate in the regional contest (or major portion thereof), with a maximum of four (4) per region.

Tie Breaker

In the case of a tie that individual who has the highest grand total score shall have prior rating.

Rules

- I. General Plan
 - A. The preliminary contests are local, sectional, regional, and state in nature. All regional and the state contests must follow the rules of the National Extemporaneous Public Speaking Contest.
 - B. Each contestant's written production will be the result of his/her own efforts. It is expected that he/she will take advantage of all available training facilities in the local school in developing speaking and writing abilities. Facts and working data may be secured from any source.
 - C. Extemporaneous Public Speaking contests will adhere to the official FFA dress uniform at all levels of participation.
 - D. A student may not participate in the Public Speaking, Extemporaneous Public Speaking, or Job Interview contests in the same year.
 - E. Violations of any of the rules will result in the disqualification of the contestant by the contest supervisor.
- II. Subjects

- A. The selection of topics shall be held 30 minutes before the contest. The contestant will draw three specific topics relating to vocational agriculture/FFA and the industry of agriculture. After selecting the topic, on which he/she desires to speak, all three topics will be returned to the original group of topic areas, prior to the next drawing.
 - B. Topics should be specific and related to current issues pertaining to vocational agriculture/FFA and the industry of agriculture. They will be typed on cards. Each section is to develop their own topics. The State Contest Supervisor is to develop topics for the regional and state contests. These are not to be distributed to schools.
 - C. Contestants will draw to determine the order of speaking. Contestants will be admitted to the preparation room at 15 minute intervals and given exactly 30 minutes for topic selection and preparation.
 - D. Reference material will be screened by the officials in charge of the contest on the following basis:
 - 1. Must be printed material such as books or magazines or clearly referenced articles from the internet (cannot be notes or speeches prepared by the contestant or notes prepared by another person for the purpose of use for this contest). Collected quotes must be individually referenced. To be referenced by author, the name of the document or website in which the article appears, the publisher or website organization, and that date of publication or posting must be noted. Items printed from the internet must be printed in their original form and include a web address on the page, copied/pasted, and reformatted internet items will not be allowed.
 - 2. Shall be limited to five items. To be counted as one item, a notebook or folder of collected materials may not contain more than 100 pages (single sided).
 - E. Participants may have up to 10 minutes to conduct online research. Computer and internet access be provided by the contestant. Access to email, cloud storage or any prepared materials is prohibited. A room monitor will be the official timekeeper for each contestant's technology time. The use of prepared notes or speeches, even if accessed with technology time, is prohibited and will be grounds for disqualification.
 - F. Each speech shall be the result of the contestant's own effort using approved reference material, which the contestant may bring to the preparation room. No other assistance may be provided. Uniform note cards will be provided each contestant. Any notes for speaking must be made during the 30 minute preparation period. A watch may be used by the speaker to keep record of their time.
 - G. A list of all possible topics will be given to and reviewed by the judges prior to the beginning of the contest.
- III. Time Limit
- A. Each speech shall not be less than four or more than six minutes with five minutes additional time allowed for related questions which shall be asked by the judges. The chairperson of the contest shall introduce the contestant by name and the contestant may introduce his/her speech by title only. Contestants are to be penalized one point per second on each judge's score sheet for being over six minutes or under four minutes. Time commences when the speaker begins talking.
 - B. During the question phase, time will be called at exactly five minutes, whether or not the contestant is finished with their answer or a judge is asking a question.
- IV. Method of Selecting Winner
- A. Local contests will be under the direction of the local agricultural instructor.

- B. Sectional and regional contests will be under the direction of the Regional Supervisor concerned.
- C. Contestants shall draw for places on the program. The program chairperson shall then introduce each speaker by name only in order of the drawing. A contestant will be permitted to use notes while speaking, but deduction in scoring may be made for this practice if it detracts from the effectiveness of the preparation. Applause shall be withheld until all contestants have spoken.
- D. Two timekeepers shall be designated who will record the time used by each contestant in delivering his/her speech, noting undertime and overtime, if any, for which deductions should be made. Timekeepers should be sitting together.
- E. Three competent and impartial persons will be selected to judge the contest. All judges should have an agricultural and FFA background.
- F. At the time of the contest, the judges will be seated in different sections of the room in which the contest is held. They will score each contestant upon the delivery of the production, using the score sheet provided.
- G. Each judge shall formulate and ask questions. Questions shall pertain directly to the speaker's subject. Questions containing two or more parts should be avoided. Judges will score each contestant on the ability to answer all questions asked by all judges. The full five minutes for questions should be used.
- H. When all contestants have finished speaking, each judge will total the score for each contestant. The timekeepers' record will be used in computing the final score for each contestant.
- I. Contestants shall be ranked in numerical order on basis of final score to be determined by each judge without consultation with each other. The judges' ranking of each contestant then shall be added and the winner will be the contestant whose total of rankings is the lowest. Other placing shall be determined in the same manner. (Low point score method of selection). In the case of a tie that individual who has the highest grand total score shall have prior rating.
- J. NOTE: Judges should meet prior to the contest to prepare and clarify the questions to be asked.

Extemporaneous Public Speaking LDE Scorecard – 1,000 points						
						Participant #:
Indicators	Very strong evidence skill is present 5-4	Moderate evidence skill is present 3-2	Strong evidence skill is not present 1-0	Points Earned	Weight	Total Score
Oral Communication – 450 points						
Examples	<ul style="list-style-type: none"> Examples are vivid, precise and clearly explained. Examples are original, logical and relevant. 	<ul style="list-style-type: none"> Examples are usually concrete, sometimes needs clarification. Examples are effective, but need more originality or thought. 	<ul style="list-style-type: none"> Examples are abstract or not clearly defined. Examples are sometimes confusing, leaving the listeners with questions. 		X 10	
Speaking without hesitation	<ul style="list-style-type: none"> Speaks very articulately without hesitation. Never has the need for unnecessary pauses or hesitation when speaking 	<ul style="list-style-type: none"> Speaks articulately, but sometimes hesitates. Occasionally has the need for a long pause or moderate hesitation when speaking. 	<ul style="list-style-type: none"> Speaks articulately, but frequently hesitates. Frequently hesitates or has long, awkward pauses while speaking. 		X 10	
Tone	<ul style="list-style-type: none"> Appropriate tone is consistent. Speaks at the right pace to be clear. Pronunciation of words is very clear and intent is apparent. 	<ul style="list-style-type: none"> Appropriate tone is usually consistent. Speaks at the right pace most of the time, but shows some nervousness. Pronunciation of words is usually clear, sometimes vague. 	<ul style="list-style-type: none"> Has difficulty using an appropriate tone. Pace is too fast; nervous. Pronunciation of words is difficult to understand; unclear. 		X 10	
Being detail-oriented	<ul style="list-style-type: none"> Is able to stay fully detail oriented. Always provides details which support the issue; is well organized. 	<ul style="list-style-type: none"> Is mostly good at being detail-oriented. Usually provides details which are supportive of the issue; displays good organizational skills. 	<ul style="list-style-type: none"> Has difficulty being detail- oriented. Sometimes overlooks details that could be very beneficial to the issue; lacks organization. 		X 30	
Connecting and articulating facts and issues	<ul style="list-style-type: none"> Exemplary in connecting facts and issues and articulating how they impact the issue locally and globally. Possesses a strong knowledge base and is able to effectively articulate information regarding related facts and current issues. 	<ul style="list-style-type: none"> Sufficient in connecting facts and issues and articulating how they impact the issue locally and globally. Possesses a good knowledge base and is able to, for the most part, articulate information regarding related facts and current issues. 	<ul style="list-style-type: none"> Has difficulty with connecting facts and issues and articulating how they impact the issue locally and globally. Possesses some knowledge base but is unable to articulate information regarding related facts and current issues. 		X 30	
Oral Communication Total						

INDICATORS	Very strong evidence of skill is present 5-4 points	Moderate evidence of skill is present 3-2 points	Strong evidence of skill not present 1-0 points	Points Earned	Weight	Total Score
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Non-verbal Communication – 400 points						
Attention (eye contact)	<ul style="list-style-type: none"> Eye contact constantly used as an effective connection. Constantly looks at the entire audience (90-100% of the time). 	<ul style="list-style-type: none"> Eye contact is mostly effective and consistent. Mostly looks around the audience (60-80% of the time). 	<ul style="list-style-type: none"> Eye contact does not always allow connection with the speaker. Occasionally looks at someone or some groups (less than 50% of the time). 		X 20	
Mannerisms	<ul style="list-style-type: none"> Does not have distracting mannerisms that affect effectiveness. No nervous habits. 	<ul style="list-style-type: none"> Sometimes has distracting mannerisms that pull from the presentation. Sometimes exhibits nervous habits or ticks. 	<ul style="list-style-type: none"> Has mannerisms that pull from the effectiveness of the presentation. Displays some nervous habits – fidgets or anxious ticks. 		X 20	
Gestures	<ul style="list-style-type: none"> Gestures are purposeful and effective. Hand motions are expressive and used to emphasize talking points. Great posture (confident) with positive body language. 	<ul style="list-style-type: none"> Usually uses purposeful gestures. Hands are sometimes used to express or emphasize. Occasionally slumps; sometimes negative body language. 	<ul style="list-style-type: none"> Occasionally gestures are used effectively. Hands are not used to emphasize talking points; hand motions are sometimes distracting. Lacks positive body language; slumps. 		X 20	
Well-poised	<ul style="list-style-type: none"> Is extremely well-poised. Poised and in control at all times. 	<ul style="list-style-type: none"> Usually is well-poised. Poised and in control most of the time; rarely loses composure. 	<ul style="list-style-type: none"> Isn't always well-poised. Sometimes seems to lose composure. 		X 20	
Non-verbal Communication Total						
INDICATORS	Very strong evidence of skill is present 5-4 points	Moderate evidence of skill is present 3-2 points	Strong evidence of skill not present 1-0 points	Points Earned	Weight	Total Score
Questions Points – 150 points						
Questions & Answers Supportive detail/facts	<ul style="list-style-type: none"> Provides relevant & accurate details/examples to support answers Is able to speak quickly with organized thoughts and concise answers 	<ul style="list-style-type: none"> Speaks unrehearsed mostly with comfort and ease, but sometimes seems to lack supporting details Sometimes gets off focus and uses less concise facts and examples. 	<ul style="list-style-type: none"> Shows nervousness or seems unprepared when speaking unrehearsed. Seems to ramble or speaks before thinking. Inaccurate or incomplete details 		X 30	
Questions Total Points						
Non-verbal Communication Total Points						
Oral Verbal Communications Total						
Time Deduction*						
Net Total Points						
Rank						

* -1 point per second under 4 minutes or over 6 minutes, determined by the timekeepers.

FARM BUSINESS MANAGEMENT

Revised 6/2019

Purpose and Standards

To help close the achievement gap we will encourage students to better analyze farm records which will reinforce mathematics standards. California Career Technical Education Model Curriculum Standards addressed by this event include:

Foundation Standards: 1.0 Academics – 1.1 Mathematics, 10.0, 12.0. 5.0 Problem Solving and Critical Thinking – 5.1, 5.2, 5.3. 10.0 Technical Knowledge and Skills – 10.3.

Agriculture Business Pathway: A4.0, A4.1, A4.2, A4.3, A4.4, A4.5, A4.6.

Contestants

Teams consist of four members, with all four individual scores counting as the team score. All team members are eligible for individual awards.

Classes

Class	Individual Points	Team Points
Written Test on Record Business Management	100	400
Non-Current/Capital Depreciable Inventory	50	200
Written Test on Tax Management	100	400
TOTAL	250	1000

Tie Breaker

1. In the Farm Business Management Contest, individual or team ties shall be broken by the Non-Current/Capital Depreciable Inventory Page score(s). If there is still a tie, the written test scores shall be used in the following order: 1) Record Business Management and 2) Tax Management.
2. If a tie still exists, the total score of the individual or team will be used.

Sub-contest Awards

Sub-contest awards will be given for high teams and individuals in the following areas: Written Test on Record Business Management, Written Test on Tax Management, and Non-Current/Capital Depreciable Property Problem.

Rules

- I. Contest shall be based on the John Deere Farm and Ranch Business Management Book, and the most recent version of Farmer's Tax Guide Publication 225.
- II. The contest shall consist of three sections.
 - A. Written Test on Record Business Management
 1. Time limit 60 minutes.
 2. Test will consist of 100 multiple-choice and true/false questions.
 3. Each question will be worth 1 point for a total of 100 points.
 4. The test will be based on the John Deere: Farm and Ranch Management Book.
 - B. Written Test on Tax Management
 1. Time limit 60 minutes.
 2. The test will consist of 100 true/false and multiple-choice questions.
 3. Each question will be worth 1 point for a total of 100 points.
 4. The test will be an open book test based upon the current Farmer's Tax Guide Publication 225. These pages will be provided by the host school.

- C. Non-Current/Capital Depreciable Inventory Problem
 - 1. Time limit will be 40 minutes
 - 2. 50 points will be allowed for this section.
 - 3. The depreciable property problem shall be an actual problem that is completed in the contestant's own handwriting. This forbids the use of a Scantron for this section of the test.
 - 4. The test will be based on the most current Farmers Tax Guide, Publication 225.
- III. Non-programmable calculators shall be allowed in the Farm Business Management Contest.
- IV. At the option of the host school, a critique may be given.

FARM POWER AND MACHINERY

Revised 6/2023

Purpose and Standards

The contest shall be designed to test a student's mechanical skills and abilities relating to power equipment used in agriculture, and shall serve as a training forum for students interested in pursuing a career as an equipment technician.

Foundation Standards: Mathematics Algebra 10, 12, 13, 15 and Geometry 8, 10, 11, Listening and Speaking 1.8, 2.3, Technology 4.1, 4.2, 4.6, Problem Solving and Critical Thinking 5.1, 5.2, 5.3, Health and Safety 6.2, 6.4, 6.5, Ethics and Legal Responsibilities 8.3, Leadership and Teamwork 9.1, 9.2, 9.3.

Ag Mechanics Pathway Standards: Safety B 1.0, Engines and Machinery B 11.0.

Contestants

Teams consist of three members, with all three individual scores counting as the team score. All team members are eligible for individual awards.

Classes

		Individual Points	Team Points
A.	Parts & Tool Identification	100	300
B.	General Information Test	100	300
C.	Tractor Operation and Safety	100	300
D.	Trouble Shooting of Tractors and Machinery	100	300
	TOTAL	400	1200

Tie Breaker

1. In the Farm Power and Machinery Contest ties will be broken on the basis of the highest individual or team score(s) using the general information test portion of the contest.
2. If a tie still exists, the total score of the individual or team will be used to determine the high individual or team.

Sub-contest Awards

Sub-contest awards will be given for high teams and individuals in the following areas: Parts & Tool Identification, General Information Test, Tractor Operation and Safety, and Trouble Shooting of Tractors and Machinery.

Host School Requirements

The sponsoring school shall determine which area in the Tractor Driving section it will offer and then inform schools in their letter of invitation for the contest.

Rules

- I. Each area of competition may have several methods of presentation. The selection of the method to use for competition is to be made by the organizing group who is sponsoring the contest.
- II. The sponsoring agency will select four pieces of equipment to be used for identification and/or trouble shooting from the list of equipment below:

Disc Harrows

Moldboard Plows

Cultivators

Swathers/Mowers	Rakes	Balers
Planters/Drills	Combines	Spray Equipment
Wheel/Track Tractors	Forage Harvesters	Nut Sweeper
Tree Shaker	Shuttle Cart	Nut Pickup Machine

III. Written materials will be returned; Scantron score sheets could be returned.

IV. The references to be used for the contest are listed below:

- FMO Tractors
- FOS Engines
- FOS Hydraulics
- FOS Electrical Systems
- FOS Shop Tools
- FMO Books pertaining to EQUIPMENT listed above.

Various operator's manuals related to the listed equipment may be used for contest sections A, C and D. Deere and Company publishes many of the resources. All equipment dealers provide equivalent materials.

V. Contest Area Descriptions

- A. Parts & Tool Identification – This area shall consist of the identification of parts and tools that are commonly found and currently used in the area of power equipment.

The references listed above shall establish the common name of parts and tools used in the contest and provide consistency from contest to contest. There may, however, be variations of the parts as they are shown in the references.

The testing format for this area is at the discretion of the sponsoring school, which could be name identification, purpose or function identification, or problems associated with those parts used.

Tool ID, Engine ID, and Hydraulic ID	40 pts.
Tractor and Machinery ID	60 pts.

- B. General Information Test – The written test for this contest shall be designed to test the contestants on their knowledge in the area of farm power and machinery.

The test format can be true/false, multiple choice, short answer, fill in, matching, math problems, or any combination of testing systems. The subject areas to be included on the test are as follows:

Diesel Engines	10 pts.
Gasoline Engines	10 pts.
Hydraulics	10 pts.
Electrical Systems	10 pts.
Equipment Maintenance	10 pts.
Field Operation	15 pts.
Implements	15 pts.
Power Transmission	20 pts.
TOTAL	100 pts.

- C. Tractor Operation and Safety – This area shall consist of a Safety Test, one Tractor Driving section, and one Tractor Controls section to test the contestants' ability to safely and accurately operate modern farm tractors and machinery.

Safety Test – 20 pts.

Consists of written questions on safety procedures when operating, servicing, and working around tractors and farm machinery.

Tractor Driving – 40 pts.

The sponsoring agency will devise a course to test contestants' driving skills in one of three areas:

Backing – trailer shall be of the two-wheel variety only.

Precision – tractor mounted implement.

Hitching – 3 pt. Mounted Implement.

Scoring in all events will have a balance between time and safety. Standardized score sheets shall be developed for this area. Only wheel tractors will be used and when possible, like types of tractors and implements will be provided for each area.

Tractor Controls – 40 pts.

The sponsoring agency will develop an operation procedure to test contestants' knowledge and skills in correctly adjusting and operating tractor and implement controls.

Note: Possible Operation Control Examples are as follow, hosting schools are not limited to this list.

Draft/Position Control Setting

Lower/Response Setting

Height Adjustment – three point

Remote Hydraulic Operation

Differential Lock Usage

Turning Brake Usage

Mechanical Front Wheel Drive Operation

Seat Adjustment

Light System

Instrument Panel Check

Pre-operational Check

Safety Check

Tire Setup

Functional Explanation of Transmission

Use of Hydraulic Pressure Test Gauge

Use of Volt/Ohm Meter

- D. Trouble Shooting of Tractors and Machinery – This area will test the contestants' ability to inspect Tractors, Implements, or Machinery and determine maintenance needs, adjustment problems, and visible faults and safety hazards. Common and visible faults are to be used. Implements may be set on the ground, in transport position, or in working field position.

VI. Post - Contest Procedures

- A. Critique – a review of each area of the contest, open to all Agricultural Teachers and contestants, will be held after the contest.

FLORICULTURE

Revised 6/2024

Purpose and Standards

The Floriculture Career Development Event seeks to effectively prepare students for the expectations of the agricultural floral industry. Students seeking careers in the floricultural field must develop a high degree of knowledge and skill, and also use critical thinking and oral communication skills. They will be able to demonstrate quality evaluation by judging potted foliage plants, cut flowers, flowering potted plants, and floral design classes. The students will identify the many cut flowers, potted plants, and tools and materials commonly used in the floral industry. Students will also demonstrate their design ability with flowers to wear, flowers to carry, and a floral design according to the floral industry standards. Students will also demonstrate their knowledge of the floral industry with a written test. California Career Technical Education Model Curriculum Standards addressed by this event include:

Foundation Standards: 2.0 Communications – 2.4; 1.1; 2.2 a, b, c, f; 5.0 Problem Solving and Critical Thinking; 6.0 Health and Safety.

Career Pathway Standards: Agriscience Pathway C11.2; Forestry and Natural Resources Pathway E8.2; Ornamental Horticulture Pathway F1.4, F1.5, F9.0, F11.0

Contestants

Teams shall consist of four members. The scores of the four team members shall be combined for the team score. All team members are eligible for individual awards. State finals contest will consist of a preliminary round and a final round. The preliminary round will be held Friday and the final round will be held the following day. To qualify for the final round, a team must be in the top 20 teams after the preliminary round. The preliminary round will consist of identification and two non-reasons classes of judging. In the preliminary round, in the case of a tie, the judging class will be used as the tie breaker. The top 20 teams will be posted at the conclusion of the preliminary round tabulations. Preliminary round scores will be added to the final round scores on Saturday.

Classes

The contest will be scored on 900 points per individual/3600 points per team. Individually the contest will be scored as follows:

Class	Individual Points	Team Points
A. 1 class of plants (foliage or flowering)	50	200
B. 1 class of cut flowers	50	200
C. 1 class of floral design	50	200
D. 1 class of reasons	50	200
E. Identification (25 each of Cut Flowers, Potted Plant, and Tools/Materials)	300	1200
F. Construction (3 designs)	300	1200
G. Written Test (25 questions)	100	400
TOTAL	900	3600

Tie Breaker

1. The team or individual scoring the highest reason score(s) will be with winner.
2. If a tie still exists, the total score of the individual or team will be used to determine the high individual or team.

Sub-contest Awards

Sub-contest awards will be given for high teams and individuals in the following areas: Judging, Reasons, Identification, Construction. (Reasons are not included in judging sub-contest score.)

Rules

- I. There will be seven portions of the contest. They will be labeled A, B, C, D, E, F, and G.
- II. These shall consist of: One class of commercially marketable cut flowers; one class of flowering or foliage potted plants; one class of floral design from one of the five basic design styles; asymmetrical, symmetrical, L-shaped, horizontal, vertical; one portion of identification including 25 from the cut flower list, 25 from the potted plant list, and 25 items from the tool/materials list (identification items must be grouped by category); a construction assessment including flowers to wear, flowers to carry, and a container design, and a written test.
- III. Reasons will be given on one of the three classes judged.
- IV. Reasons will be scored from 0 to 50 points based on the following criteria:

1. Subject matter	60%
2. Logic and force	30%
3. Bearing and address	10%

- V. Ten minutes will be allowed for judging each reasons class and five minutes for each non-reasons judging class. Two minutes per contestant will be allowed for presentation of oral reasons.
 - A. Classes of cut flowers: four vases of six flowers each. Flowers will be displayed so that the condition of the flowers does not change throughout the contest. Flower classes will be selected from the following list only.

CARNATIONS; SPRAY CHRYSANTHEMUMS and SNAPDRAGONS.
 - B. Class of flowering potted plants: four specimens. Flowering potted plants will be selected from the following list only.

AFRICAN VIOLET; AZALEA; and HYDRANGEA.
 - C. Class of potted foliage plants: four specimens. Potted foliage plants will be selected from the following list only.

DEVIL'S IVY (POTHOS); DIEFFENBACHIA; and BOSTON FERN.
- VI. Contestants are only allowed to bring the following items to the contest with them:
 - A. Florist's Knife
 - B. Florist's Shears
 - C. Florist's Scissors
 - D. Wire Cutters
 - E. Cold Glue (floral adhesive) Students must bring their own for personal use.

- VII. Identification - Students will be allowed 45 minutes for the identification section. Items will be selected to include 25 from each list, for a total of 75 items. All items in the identification section will be identified with a three-digit number.
- VIII. Construction – Students will be allowed 90 minutes to complete the construction portion. 15 minutes will be allotted for product preparation and 15 minutes for cleanup time. Students will construct all three designs within their time allotted and may choose how to distribute their time and materials provided. A scenario describing the intended use and style of designs will be provided to the student for construction items.
- IX. Written Test – Students will be allowed 30 minutes to complete a written test of 25 questions. Questions will address elements and principles of design as well as industry information. A question test bank of 250 questions will be created by the coaches of the top five floral teams from State Finals. Each question will be worth four points each for a total value of 100 points. Resources for the test include all materials identified in the “Study Materials” for the California State Floral Association’s California Certified Florist exam.
- A. Flower and Color Guide produced by the California Cut Flower Commission
 - B. Flower and Plant Care and Handling by the Society of American Florists (SAF)
 - C. The Art of Floral Design by Norah T. Hunter, Delmar Cengage Learning
 - D. AIFD Guide to Floral Design: Terms, Techniques and Traditions by AIFD
 - E. Principles of Floral Design by Pat Diehl Scace and James DelPrince
- X. Judging/Construction Terms Which May Need Explanation
- A. Cultural Perfection - the physical appearance of the plant clearly indicates the skill of the grower.
 - B. Pot to Plant Relationship - plant should be in proportion to the size of the pot. Rule of thumb, plant should be 1 1/2 times that of the pot.
 - C. Balance - A visual stability created by the placement of weight and attraction in the arrangement. A physical balance of the completed arrangement.
 - D. Color Harmony - Colors used which work well together and reinforce the overall design.
 - E. Depth - Placing flowers further back from the central vertical axis to create a change of plane.
 - F. Focal Point - Created by the placement of one or more mass flowers at the middle of the design, on the rim of the container.
 - G. Form - Designing an arrangement of the proposed form (i.e., symmetrical triangle)
 - H. Proportion - The size relationship between elements of the whole.
 - I. Radiation - Stems should originate (radiate) from the central vertical axis.
 - J. Rhythm - How the viewer's eye flows through the arrangement as a response to the flow of material and color.
 - K. Scale - Size relationship of the individual component parts.
 - L. Spacing - The flowers at the focal point are the closest together and as you move away from the focal point, the flowers are progressively spaced farther and farther apart.
 - M. Texture - The reaction to the surface of the material; rough, smooth, glossy, dull.

- XI. Cut Flowers Identification: Twenty-five cut marketable items will be selected from the following list to be included in the overall group of 75 identification items. Each will be scored at four points per item, for a total of 100 points possible for Cut Flowers.

100	<i>Achillea filipendulina</i>	Yarrow
101	<i>Agapanthus africanus</i>	Agapanthus
102	<i>Agonis flexuosa</i>	Agonis
103	<i>Alpinia purpurata</i>	Ginger
104	<i>Alstroemeria aurantiaca</i>	Alstroemeria
105	<i>Amaranthus</i>	Amaranthus
106	<i>Ammi majus</i>	Queen Anne's Lace
107	<i>Anemone coronaria</i>	Anemone
108	<i>Anigozanthos flavidus</i>	Kangaroo Paw
109	<i>Anthericum saundersiae</i>	Lily Grass
110	<i>Antirrhinum majus</i>	Snapdragon
111	<i>Anthurium andraeanum</i>	Anthurium or Flamingo Plant
112	<i>Asparagus asparagoides</i>	Smilax
113	<i>Asparagus plumosus</i>	Plumosa Fern
114	<i>Asparagus retrofractus</i>	Ming Fern
115	<i>Asparagus setaceus</i>	Tree Fern
116	<i>Asparagus sprengeri</i>	Sprengeri Fern
117	<i>Aster pringlei</i>	Monte Casino Aster
118	<i>Astrantia major</i>	Astrantia or Masterwort
119	<i>Astilbe hybrid</i>	Astilbe
120	<i>Banksia Sp.</i>	Banksia
121	<i>Berzelia lanuginose</i>	Berzillia or Buttonbush
122	<i>Bupleurum rotundifolium</i>	Bupleurum
123	<i>Brassica oleracea</i>	Ornamental Kale
124	<i>Brunia noduliflora</i>	Brunia
125	<i>Buxus Sp.</i>	Boxwood
126	<i>Callistephus chinensis</i>	China Aster or Matsumoto Aster
127	<i>Camellia japonica</i>	Camellia
128	<i>Carthamus tinctorius</i>	Safflower
129	<i>Celosia argentea</i>	Cockscomb
130	<i>Centaurea cyanus</i>	Bachelors Button or Cornflower
131	<i>Chamaedorea Sp.</i>	Comedor
132	<i>Chamelaucium species</i>	Waxflower
133	<i>Clarkia amoena</i>	Godetia
134	<i>Clematis hybridcv.</i>	Clematis
135	<i>Cordyline terminalis</i>	Ti Leaves
136	<i>Cosmos Sp.</i>	Cosmos
137	<i>Craspedia globose</i>	Billy Buttons
138	<i>Cymbidium cv.</i>	Cymbidium Orchid
139	<i>Cynara cardunculus</i>	Artichoke

140	<i>Cyperus papyrus</i>	Papyrus Foliage
141	<i>Dahlia</i> hybrids	Dahlia
142	<i>Delphinium ajacis</i>	Larkspur
143	<i>Delphinium elatum</i>	Delphinium
144	<i>Dendranthema morifolium</i>	Spray of Pompon Chrysanthemum
145	<i>Dendranthema morifolium</i>	Standard Chrysanthemum
146	<i>Dendrobium</i> cv.	Dendrobium Orchid
147	<i>Dianthus barbatus</i>	Sweet William
148	<i>Dianthus caryophyllus</i>	Spray Carnation
149	<i>Dianthus caryophyllus</i>	Standard Carnation
150	<i>Echeveria</i>	Hens & Chicks
151	<i>Echinops ritro</i>	Globe Thistle
152	<i>Equisetum hyemale</i>	Horsetail
153	<i>Erica carnea</i>	Heather
154	<i>Eryngium</i> Sp.	Sea holly, blue sea holly, star thistle
155	<i>Eucalyptus gunnii</i>	Gunni Eucalyptus
156	<i>Eucalyptus nicholii</i>	Willow Eucalyptus
157	<i>Eucalyptus polyanthemos</i>	Silver Dollar Eucalyptus
158	<i>Eucalyptus populous</i>	Seeded Eucalyptus
159	<i>Eucalyptus pulverulenta</i>	Spiral Eucalyptus
160	<i>Eustoma grandiflora</i>	Lisianthus
161	<i>Forsythia</i> Sp.	Forsythia
162	<i>Freesia refracta</i>	Freesia
163	<i>Galax urceolata</i>	Galax Leaf
164	<i>Gardenia jasminoides</i>	Gardenia
165	<i>Gaultheria shallon</i>	Lemon Leaf
166	<i>Genista</i> Sp.	Scotch Broom
167	<i>Gerbera jamesonii</i>	Gerbera
168	<i>Gladiolus hybrida</i>	Gladiolus
169	<i>Grevillea Ivanhoe</i>	Grevillea
170	<i>Gypsophila</i>	Baby's Breath
171	<i>Helleborus</i> Sp.	Hellebores
172	<i>Helianthus annuus</i>	Sunflower
173	<i>Heliconia</i> species	Heliconia
174	<i>Hippeastrum</i> Sp.	Amaryllis
175	<i>Hydrangea macrophylla</i>	Hydrangea
176	<i>Iris xiphium</i>	Dutch Iris
177	<i>Lathyrus odoratus</i>	Sweet Pea
178	<i>Leptospermum scoparium</i>	Leptospermum
179	<i>Leucadendron</i> Sp.	Leucadendron
180	<i>Leucospermum</i> Sp.	Pincushion Protea
181	<i>Liatris calliepis</i>	Liatris
182	<i>Lilium</i> Sp.	Asiatic Lily

183	<i>Lilium</i> Sp.	Oriental Lily
184	<i>Limonium</i> hybrids	'Misty Series' Statice
185	<i>Limonium perezii</i>	Sea Lavender Statice
186	<i>Limonium sinuatum</i>	Annual Statice
187	<i>Lysimachia clethroides</i>	Lysimachia
188	<i>Magnolia grandiflora</i>	Magnolia foliage
189	<i>Mathiola incana</i>	Stock
190	<i>Molluccella laevis</i>	Bells of Ireland
191	<i>Myrtus communis</i>	Tall Myrtle
192	<i>Narcissus pseudo-narcissus</i>	Daffodil
193	<i>Nerine</i> hybrids	Nerine Lily
194	<i>Oncidium</i> Sp.	Oncidium Orchid
195	<i>Ornithogalum thyrsoides</i>	Star of Bethlehem
196	<i>Paeonia</i>	Peony
197	<i>Phalaenopsis</i> cv.	Phalaenopsis Orchid
198	<i>Phormium tenax</i> cv.	New Zealand Flax
199	<i>Pittosporum tobria</i>	Pittosporum
200	<i>Polianthes tuberosa</i>	Tuberose
201	<i>Protea</i> sp.	Protea
202	<i>Pteris</i> sp.	Brake Fern
203	<i>Ranunculus</i> Sp.	Ranunculus
204	<i>Rhamnus californica</i>	Coffeeberry (hypericum berry)
205	<i>Rosa</i> Sp.	Rose
206	<i>Rumohra adiantiformis</i>	Leatherleaf Fern
207	<i>Ruscus aculeatus</i>	Italian Ruscus
208	<i>Ruscus</i> Sp. (hypoglossum or hypophyllum)	Israeli Ruscus
209	<i>Salix discolor</i>	Pussywillow
210	<i>Salix matsudana</i> 'Tortuosa'	Curly Willow
211	<i>Scabiosa</i> Sp.	Scabiosa Flower
212	<i>Senecio cineraria</i>	Dusty Miller
213	<i>Solidago</i>	Solidago or Solidaster
214	<i>Stephanotis floribunda</i>	Stephanotis
215	<i>Strelitzia reginae</i>	Bird of Paradise
216	<i>Syringa vulgaris</i>	Lilac
217	<i>Tulipa</i> Sp.	Tulip
218	<i>Tweedia caerulea</i>	Tweedia
219	<i>Typha</i> Sp.	Cattails
220	<i>Veronica</i> cultivar	Veronica
221	<i>Xerochrysum bracteatum</i>	Strawflower
222	<i>Xerophyllum tenax</i>	Bear Grass
223	<i>Zantedeschia aethiopica</i>	Calla Lily

XII. Potted Plant Identification: From the following plants, 25 will be selected to be included in the overall group of 75 identification items. Each will be scored at four points per item, for a total of 100 points possible for Potted Plants.

300	<i>Aechmea fasciata</i>	Bromeliad
301	<i>Aglaonema modestum</i>	Chinese Evergreen
302	<i>Anthurium species</i>	Anthurium
303	<i>Aphelandra squarrosa</i>	Zebra Plant
304	<i>Araucaria heterophylla</i>	Norfolk Island Pine
305	<i>Aspidistra elatior</i>	Cast Iron Plant
306	<i>Asplenium nidus</i>	Birdsnest Fern
307	<i>Begonia sp.</i>	Rieger Begonia
308	<i>Brassaia (Schefflera) actinophylla</i>	Umbrella Tree
309	<i>Daladium x hortulanum cv.</i>	Caladium
310	<i>Calathea Sp.</i>	Calathea or Prayer Plant
311	<i>Chamaedorea elegans</i>	Parlor Palm
312	<i>Chlorophytum comosum</i>	Spider Plant
313	<i>Cissus rhombifolia</i>	Grape Ivy
314	<i>Codiaeum variegatum</i>	Croton
315	<i>Coleus blumei</i>	Coleus
316	<i>Crassula argentea</i>	Jade Plant
317	<i>Cyclamen persicum</i>	Cyclamen
318	<i>Dieffenbachia sp.</i>	Dumb Cane
319	<i>Dizygotheca elegantissima</i>	False Aralia
320	<i>Dracaena fragrans</i>	Corn Plant
321	<i>Dracaena marginata</i>	Red Edge Dracaena
322	<i>Euphorbia pulcherrima</i>	Poinsettia
323	<i>Euphorbia splendens</i>	Crown of Thorns
324	<i>Exacum affine</i>	Persian Violet
325	<i>Fatsia japonica</i>	Japanese Aralia
326	<i>Ficus benjamina</i>	Weeping Chinese Fig
327	<i>Ficus elastica 'Decora'</i>	Rubber Tree
328	<i>Fittonia verschaffeltii argyroneura</i>	White Fittonia
329	<i>Fuchsia hybrida</i>	Fuchsia
330	<i>Gibasis geniculata</i>	Bridal Veil
331	<i>Gynura aurantiaca</i>	Velvet Plant
332	<i>Hedera helix</i>	English Ivy
333	<i>Hippeastrum vittatum</i>	Amaryllis
334	<i>Hoya carnosa</i>	Wax Plant
335	<i>Hyacinthus orientalis</i>	Hyacinth
336	<i>Hydrangea macrophylla</i>	Hydrangea
337	<i>Hypoestes sanguinolenta</i>	Polka-Dot Plant
338	<i>Kalanchoe blossfeldiana</i>	Kalanchoe
339	<i>Lilium longiflorum</i>	Easter Lilly

340	<i>Monstera deliciosa</i>	Split-Leaf Philodendron
341	<i>Narcissus</i> sp.	Paperwhites
342	<i>Nephrolepis exalta</i> 'Bostoniensis'	Boston Fern
343	<i>Pelargonium hortorum</i>	Geranium
344	<i>Pelargonium peltatum</i>	Ivy Geranium
345	<i>Peperomia caperata</i>	Emerald Ripple Peperomia
346	<i>Peperomia obtusifolia</i>	Wax Leaf Peperomia
347	<i>Peperomia obtusifolia</i> 'Variegata'	Variegated Peperomia
348	<i>Philodendron oxycardium</i>	Heartleaf Philodendron
349	<i>Pilea cadierei</i>	Aluminum Plant
350	<i>Plectranthus australis</i>	Swedish Ivy
351	<i>Rhaphidophora aureus</i>	Golden Pothos
352	<i>Rhododendron indica</i>	Azalea
353	<i>Saintpaulia ionantha</i>	African Violet
354	<i>Sansevieria trifasciata</i>	Snake Plant
355	<i>Sansevieria trifasciata</i> 'Hahnii'	Birdsnest Snake Plant
356	<i>Schlumbergera bridgesii</i>	Christmas Cactus
357	<i>Senecio cruentus</i>	Cineraria
358	<i>Sinningia speciosa</i>	Gloxinia
359	<i>Spathiphyllum</i> spp.	Peace Lily
360	<i>Syngonium podophyllum</i>	Arrowhead Plant
361	<i>Tillandsia</i> Sp.	Air Plant
362	<i>Tolmiea menziesii</i>	Piggy-back Plant
363	<i>Tradescantia zebrina</i>	Silver Inchplant or Wandering Jew

XIII. Tools and Materials Identification: From the following tools and materials, 25 will be selected to be included in the overall group of 75 identification items. Each will be scored at four points per item, for a total of 100 points possible for Tools/Materials.

400	Aluminum Wire (Decorative)
401	Bind Wire
402	Bouquet Holder
403	Boutonniere or Corsage Bag
404	Boutonniere Pin
405	Bouquet Egg
406	Bowl or Waterproof Tape
407	Bud Vase
408	Bullion Wire
409	Care Tag
410	Cardette
411	Casket Saddle
412	Chenille Stem
413	Clear Bouquet Sleeve
414	Clear Vinyl Liner

415	Compote
416	Corsage Leaves
417	Corsage Pin
418	Crushed Styrofoam
419	Curling Ribbon
420	Enclosure Card
421	Excelsior
422	Fabric Scissors or Ribbon Shears
423	Floral Foam
424	Floral Adhesive/Cold Glue
425	Floral Mesh/Chicken Wire
426	Floral Tape
427	Florist Easel
428	Florist Knife
429	Florist Shears/Snips
430	Foam Cage
431	Gerbera Tube/Straw
432	Glass Gem
433	Glass Marble
434	Glue Gun
435	Glue Stick
436	Grapevine Wreath or Garland
437	Green Enameled Florist Wire #18
438	Green Enameled Florist Wire #24
439	Green Enameled Florist Wire #30
440	Greening Pins (Fern Pins)
441	Hot Glue Pan
442	Jewelry Pliers
443	Kenzon (Pin Holder)
444	Latex Balloon
445	Metal Pick
446	Metallic Foil
447	Midollino Sticks
448	Mylar Balloon
449	Net
450	Paddle Wire
451	Pan Glue
452	Paper Mache Liner
453	Pearl Spray/Loop
454	Plastic Box
455	Poly Foil
456	Pot Cover
457	Preserved/Dry Oak Leaves

458	Preserved/Dry Wheat
459	Raffia
460	Ribbon #1.5
461	Ribbon #3
462	Ribbon #5
463	Ribbon #9
464	Ribbon #16
465	Ribbon #40
466	Rose Stripper
467	Rose Vase
468	Self-Adhesive Glue Dashes/Strips/Dots
469	Shredded Wax Paper
470	Single Design Bowl
471	Spanish Moss
472	Sphagnum Moss
473	Square Pick
474	Stephanotis Stem
475	Steel Pick Machine
476	Stickum
477	Styrofoam
478	Tulle
479	Water Pick
480	Water Tube
481	Wire Cutters
482	Wired Wooden Pick
483	Wristlet

XIV. SCORECARDS

MARKETABLE CUT FLOWER JUDGING SCORECARD	VALUE
1. Condition	25%
<ul style="list-style-type: none"> a. uniformity b. freedom from bruise and blemish c. substance 	
2. Form	20%
<ul style="list-style-type: none"> a. uniformity b. maturity c. correct shape d. regular petalage 	
3. Stem and Foliage	20%
<ul style="list-style-type: none"> a. uniformity b. strength and straightness c. foliage quality d. size and proportion 	
4. Size	15%
<ul style="list-style-type: none"> a. uniformity b. deduct points in relation to development and condition of oversize or undersize 	
5. Color	20%
<ul style="list-style-type: none"> a. uniformity b. intensity 	

FLOWERING POTTED PLANT JUDGING SCORECARD	VALUE
1. Cultural Perfection	30%
<ul style="list-style-type: none"> a. general symmetry b. good foliage color c. freedom from disease d. insect pests e. mechanical injury 	
2. Floriferousness (effect of: floriferousness)	20%
<ul style="list-style-type: none"> a. placement b. number of flowers c. distribution d. symmetry of floral display 	
3. Size of plant	20%
<ul style="list-style-type: none"> a. form b. good pot to plant relationship c. good condition -- not spindling 	
4. Color of bloom	10%
<ul style="list-style-type: none"> a. good according to variety b. fading 	
5. Size of bloom	10%
<ul style="list-style-type: none"> a. good according to variety 	
6. Saleability	10%
<ul style="list-style-type: none"> a. profitability for retail sale of items 	

POTTED FOLIAGE PLANT SCORECARD	VALUE
1. Cultural Perfection	30%
<ul style="list-style-type: none"> a. form b. symmetry of form c. plant in good condition – according to industry standards 	
2. Health	20%
<ul style="list-style-type: none"> a. fungus or bacterial disease b. insect pests c. physiological disease d. mechanical injury e. sunburn 	
3. Size of plant	20%
<ul style="list-style-type: none"> a. proper pot to plant relationship 	
4. Foliage	30%
<ul style="list-style-type: none"> a. characteristic for variety b. color c. freedom from damage d. sufficient to cover the plant 	

FLORAL DESIGN SCORECARD	VALUE
1. Design	50%
<ul style="list-style-type: none"> a. spacing b. balance c. proportion d. scale 	
2. Color	20%
<ul style="list-style-type: none"> a. harmonious b. placement 	
3. Condition of materials	10%
<ul style="list-style-type: none"> a. materials of good quality b. appropriate for style 	
4. Texture	10%
<ul style="list-style-type: none"> a. appropriate for style 	
5. Finishing Detail	10%
<ul style="list-style-type: none"> a. attention to mechanics, ready for delivery/customer 	

XV. Construction Portion

- A. A 90-minute time limit will be allowed for all contestants to complete their design session. 15 minutes will be allotted for product preparation and 15 minutes for cleanup time. A scenario describing the intended use and style of designs will be provided to the student for construction items. Selected flowers will be provided for each student and each will be free to choose from an assortment of foliage and necessary materials made available by the contest chairperson.
- B. Judging will be done anonymously with neither the contestant nor coaches being present.

XVI. Flowers to Wear

- A. Flowers to wear will be defined as a corsage designed to be worn on the wrist or a boutonniere to be worn on a jacket. It should be comfortable and attractive. All required materials needed for the design will be provided within the package for each contestant. One wristlet will be provided to each contestant, if required for design completions. A scenario describing the use and style of flowers to wear will be provided to the student for construction items.
- B. No outside materials may be used.
- C. The flowers to wear piece constructed by each contestant will be judged on the following basis:

**FLOWERS TO WEAR
Design Evaluation Scorecard**

**5 = Excellent 4 = Above Average 3 = Average
2 = Below Average 1 = Not Acceptable**

	Criteria	Score	Judge's Comments
Professional Application	CATEGORY INTERPRETATION (Scenario Execution & Style of Design)	5 4 3 2 1	
	MECHANICS (Appropriate use of hard goods; Stability & Security)	5 4 3 2 1	
	CONSTRUCTION TECHNIQUE (Composition & Skill)	5 4 3 2 1	
	MARKETABILITY (Saleable Product)	5 4 3 2 1	
	CREATIVITY (Artistic Individuality & Expression of Creative Thinking)	5 4 3 2 1	
Elements & Principles of Design	BALANCE (Physical & Visual)	5 4 3 2 1	
	SCALE/PROPORTION (Relation between all elements)	5 4 3 2 1	
	MOVEMENT/RHYTHM/DEPTH (Visual & physical lines within arrangement; Repetition; Transition)	5 4 3 2 1	
	COLOR/TEXTURE (Color Harmony & Placement; Visual Interest; Focal Emphasis/Area)	5 4 3 2 1	
	UNITY/HARMONY (Cohesive Design)	5 4 3 2 1	

Score: _____/50 → x2 for Final Score: _____/100

Suggested range of points:

5	Excellent design, visually appealing & creative commercially marketable product, professional skill, flawless finishing
4	Above Average design, good construction & skill, commercially and artistically acceptable with few or minimal errors
3	Average design, commercially and artistically fair, skill is evident but has multiple areas of difficulty and flaws
2	Below Average design, poor construction, some skill evident but seriously flawed
1	Not acceptable design, not saleable by reason of design or construction

XVII. Flowers to Carry

- A. A flower bouquet will be constructed by each student. Each student will construct a hand tied bouquet to be carried. The contest site will determine the design style of the bouquet, either spiral or parallel. Appropriate lines, mass, filler flowers, and foliage will be provided in the supply package provided for the construction portion.
- B. The flowers to carry category includes bouquets to be held for special events and should be appropriate in size, weight, and design to be suitable for such use. A scenario describing the use and style of bouquet will be provided to the student for the construction item.
- C. Finished bouquets should be adequately secured and appropriately finished and ready for delivery to a customer.
- D. No outside materials may be used.
- E. The following scorecard will be used to evaluate each bouquet:

FLOWERS TO CARRY
Design Evaluation Scorecard

5 = Excellent 4 = Above Average 3 = Average
2 = Below Average 1 = Not Acceptable

	Criteria	Score	Judge's Comments
Professional Application	CATEGORY INTERPRETATION (Scenario Execution & Style of Design)	5 4 3 2 1	
	MECHANICS (Appropriate use of hard goods; Stability & Security)	5 4 3 2 1	
	CONSTRUCTION TECHNIQUE (Composition & Skill)	5 4 3 2 1	
	MARKETABILITY (Saleable Product)	5 4 3 2 1	
	CREATIVITY (Artistic Individuality & Expression of Creative Thinking)	5 4 3 2 1	
Elements & Principles of Design	BALANCE (Physical & Visual)	5 4 3 2 1	
	SCALE/PROPORTION (Relation between all elements)	5 4 3 2 1	
	MOVEMENT/RHYTHM/DEPTH (Visual & physical lines within arrangement; Repetition; Transition)	5 4 3 2 1	
	COLOR/TEXTURE (Color Harmony & Placement; Visual Interest; Focal Emphasis/Area)	5 4 3 2 1	
	UNITY/HARMONY (Cohesive Design)	5 4 3 2 1	

Rubric Score: _____/50 → **x2 for Final Score:** _____/100

Suggested range of points:

5	Excellent design, visually appealing & creative commercially marketable product, professional skill, flawless finishing
4	Above Average design, good construction & skill, commercially and artistically acceptable with few or minimal errors
3	Average design, commercially and artistically fair, skill is evident but has multiple areas of difficulty and flaws
2	Below Average design, poor construction, some skill evident but seriously flawed
1	Not acceptable design, not saleable by reason of design or construction

XVIII. Container Design

- A. A design will be selected for the contest for each contestant to construct. The design will be either a duplicate design or a round dozen vase design. A scenario describing the use and style of bouquet will be provided to the student for the construction item.
- B. For the duplicate Arrangement:
 1. Flower and foliage selection will be provided within the design package.
 - a. 12 stems of flowers; mass, form or line
 - b. Appropriate filler and foliage as needed for design construction.
 - c. Pictures of all 4 sides of the arrangement will be provided to each contestant.
 2. The students can make as many insertions as they would like with the product that is provided.
 3. The arrangements will be judged based on the duplicate design rubric.
- C. For Round Placement Vase Arrangement:
 1. Flower and foliage selection will be provided within the design package.
 - a. 12 – mass flowers
 - b. Appropriate filler and foliage.
 2. The vase arrangement may either be a dozen of the same mass flowers or a mixture of mass flowers, contestant choice.
 3. Flowers will be placed in a vase without the aid of mechanics (no tape, wire, ties, etc.). Arrangements should be able to be viewed from all directions. Flowers should be secure for delivery without undue caution taken to prevent flower shifting. (Wire may be used for strengthening of a flower stem but not to bind materials together.)
- D. No outside materials may be used.
- E. The arrangement will be judged anonymously. The following will be used to evaluate each arrangement:

VASE OR DUPLICATE ARRANGEMENT

Design Evaluation Scorecard

5 = Excellent 4 = Above Average 3 = Average
2 = Below Average 1 = Not Acceptable

	Criteria	Score	Judge's Comments
Professional Application	CATEGORY INTERPRETATION (Scenario Execution & Style of Design)	5 4 3 2 1	
	MECHANICS (Appropriate use of hard goods; Stability & Security)	5 4 3 2 1	
	CONSTRUCTION TECHNIQUE (Composition & Skill)	5 4 3 2 1	
	MARKETABILITY (Saleable Product)	5 4 3 2 1	
	CREATIVITY (Artistic Individuality & Expression of Creative Thinking)	5 4 3 2 1	
Elements & Principles of Design	BALANCE (Physical & Visual)	5 4 3 2 1	
	SCALE/PROPORTION (Relation between all elements)	5 4 3 2 1	
	MOVEMENT/RHYTHM/DEPTH (Visual & physical lines within arrangement; Repetition; Transition)	5 4 3 2 1	
	COLOR/TEXTURE (Color Harmony & Placement; Visual Interest; Focal Emphasis/Area)	5 4 3 2 1	
	UNITY/HARMONY (Cohesive Design)	5 4 3 2 1	

Rubric Score: _____ /50 → **x2 for Final Score:** _____ /100

Suggested range of points:

5	Excellent design, visually appealing & creative commercially marketable product, professional skill, flawless finishing
4	Above Average design, good construction & skill, commercially and artistically acceptable with few or minimal errors
3	Average design, commercially and artistically fair, skill is evident but has multiple areas of difficulty and flaws
2	Below Average design, poor construction, some skill evident but seriously flawed
1	Not acceptable design, not saleable by reason of design or construction

FOOD SCIENCE AND TECHNOLOGY

Adopted 6/2019

Purpose and Standards

The purpose of the contest is to promote learning activities in food science and technology related to the food industry and to assist students in developing practical knowledge of principles used in a team decision-making process.

Objectives

- To encourage FFA members to gain an awareness of career and professional opportunities in the field of food science and technology.
- To provide FFA members with the opportunity to experience group participation and leadership responsibilities in a competitive food science and technology program.
- To help FFA members develop technical competence and personal initiative in a food science and technology occupation.

Contestants

Teams consist of four members, with all four individual scores counting as the team score. All team members are eligible for individual awards.

Classes

Class	Time Allowed	Individual Points	Team Points
Individual Activities – Objective Test	60 minutes	150	600
Problem Solving/Math Practicum		25	100
Food Safety and Quality Practicum			
• Customer Inquiry		25	100
• Product Specification Compliance		25	100
Sensory Evaluation			
• Triangle Tests		20	80
• Aromas		20	80
Total Individual Points		265	1060
Team Product Development Project	80 minutes		
• Package Design			100
• Product Development			250
• Response to Judges' Questions			50
Food Safety/Sanitation Team Activity			
• Team Food & Safety/Sanitation			80
• Team Activity Preparation			20
Total Team Points			500
Total Overall Points Possible		265	1560

Tiebreaker

1. Team ties will be broken by the highest Team Product Development Project score. If the tie persists, then the highest team Food Safety/Sanitation score will break the tie. If a third tiebreaker is needed, the total combined individual points (adding all four team members scores) will break the tie.
2. Individual ties will be broken by individual's scores on the Objective Test. If the tie persists, then the highest Food Safety and Quality Practicum score is the second tiebreaker. If a third tiebreaker is needed, the highest Sensory Evaluation score will break the tie.

Sub-contest Awards

Sub-contest ribbons will be awarded to the top five individuals and teams in Food Safety and Quality, Problem Solving/Math Practicum, Sensory Evaluation, and the Objective Test and to the top five teams in Team Product Development and Team Food Safety/Sanitation.

Rules

- I. The food science and technology contest will consist of four activities: a team product development project, an objective test, a food safety and quality practicum, and a sensory evaluation practicum.
- II. All team members will participate in all of the activities. There will be a possible 1,000 total points per team. The team product development project will be worth 400 points per team, the objective test will be worth 50 points per individual and each of the two practicums will be worth 50 points per individual.
- III. Teams and/or individuals will not be permitted to use electronic media during the event. This includes but is not limited to cell phones, mp3 players, cameras, etc.
- IV. Allergy Information: Food products used in this event may contain or come in contact with potential allergens. Advisors must submit a special needs request form for participants with any allergies with certification. The event committee will make all reasonable efforts to accommodate students with food allergies.
- V. Each participant must provide:
 - A. A clipboard that is clean and free of notes.
 - B. Two sharpened No. 2 pencils.
 - C. Electronic calculator – Calculators used in this event should be non-programmable and non-graphing. Calculators should have only basic functions such as addition, subtractions, multiplication, division, equals, percent, square root, +/- keys. No other calculators are allowed to be used during the event including cell phones.
- VI. Team Activities
 - A. Product Development Project (400 points possible per team)
 1. Each team will receive a product development scenario describing the need for a new or redesigned product that appeals to a potential market segment. The team's task will be to design a new food product or reformulate an existing product based on information contained within the product development scenario.
 2. Each team will be provided with packaging materials, ingredients, and necessary ingredient information in order to develop, label, and package a product.
 3. The team will have 60 minutes to respond to the product development scenario and reformulate or develop a product, calculate a nutritional label, develop the ingredient statement and information panel, and develop the front or principle display panel to reflect the new product.

4. The team will be responsible for understanding and using the following concepts to develop a presentation:
 - a) Cost of goods sold
 - b) Nutrition
 - c) Target audience
 - d) Quality control
 - e) Marketing and sales
 - f) Product
 - g) Processing
 - h) Packaging
 - i) Food safety
 - j) Formulation concepts
 - k) Quality of presentation
5. After this time period, each team member will contribute to a ten minute oral presentation delivered to a panel of judges. No electronic media will be used in the presentation.
6. Following the presentation there will be a ten minute question and answer period with the judges in which each team member is expected to contribute. All materials will be collected after the presentation.
7. Total time involved for each team will be 80 minutes. Total number of points possible for this activity will be 400 points.
8. Product development scenarios will describe a category, platform, and market. These may include but are not limited to the following categories, platforms, and markets listed below.
 - a) Categories
 - (1) Cereal
 - (2) Snacks
 - (3) Meals
 - (4) Side dishes
 - (5) Beverages
 - (6) Supplements
 - (7) Condiments
 - (8) Desserts
 - b) Platform
 - (1) Frozen
 - (2) Refrigerated
 - (3) Shelf-stable
 - (4) Convenience
 - (5) Ready to eat
 - (6) Heat and serve
 - c) Market (domestic and international)
 - (1) Retail
 - (2) Wholesale
 - (3) Food service
 - (4) Convenience store

9. Examples of scenario product:

Category	Platform	Market	Actual Product
Side dish	Ready to prepare	Retail or big box	Whole grain, low sodium side dish
Beverage	Shelf-stable	Retail	Shelf-stable specialty coffee
Side dish	Refrigerated	Retail	Side salad for baby boomers
Snack	Shelf-stable	Retail	Non-nut snack bar
Breakfast	Ready to eat	Retail	Single serve cereal for kids

10. Evaluation criteria and points for team activity can be found on the team product development project scorecard.

B. Food Safety/Sanitation Team Activity (100 points possible per team)

1. Each team will be given a situation (e.g. photos, videos, written scenarios, live demonstrations, or a combination). The team will work together to evaluate the situation and complete a safety/sanitation report evaluation which will include observations, degree of conference recommendations/corrective actions.
2. Students will be evaluated on teamwork as well as their safety/sanitation report.

VII. Individual Activities

A. Objective Test (150 points possible per individual)

1. The objective questions administered during the food science and technology examination will be designed to determine each team member's understanding of the basic principles of food science and technology. The test will be primarily based on the list of references at the end of this section.
2. Team members will work individually to answer each of the 50 questions. Each person will have 60 minutes to complete the examination. Each question will be worth 3 points, for a total of 150 points.

B. Practicums – Each team member will complete all parts of the practicums.

1. Problem Solving/Math Practicum (25 points possible per individual)

- a) Participants will answer a series of five mathematical calculations based on common food science themes. Questions may include nutrition calculations, ingredient quantity, cost benefit analysis, estimation of cost/margin of goods sold, conversions, processing conditions, etc.
- b) Example Question: The perfect glass of sweet tea is 20 percent sugar. Lynn is making a one-gallon container of sweet tea. How many cups of sugar should she add?
 - (1) 2.4 cups
 - (2) 3.2 cups (correct answer)
 - (3) 3.4 cups
 - (4) 4 cups

2. Food Safety and Quality Practicum – (50 points possible per individual)

- a) Customer Inquiry – Each participant will be given five scenarios representing general consumer inquiries. Participants must determine if the consumer inquiry reflects a quality or safety issue (two points per scenario) and determine if it is a biological, chemical or physical concern or a hazard (three points per scenario). This is for a total of 25 points.
- b) Product Specification Compliance – Each participant will be given sample sets (actual products and/or data sets) and will be responsible for determining compliance with the provided specification requirements. This may include, but is not limited to, determining if the product(s) is within the

net weight standards, product sizing requirements, pH, color analysis, viscosity measurement, fill level tolerances, packaging specification compliance, etc. Participants will be asked five questions regarding potential compliance violations presented within the sample set. This is for a total of 25 points.

3. Sensory Evaluation Practicum – (40 points possible per individual)
 - a) Triangle Tests – Four different triangle tests will be conducted. Participants are expected to identify the different samples through flavor, aroma, visual cues and/or textural differences. Answers will be given on the sheet provided. No list will be provided for this segment of the practicum. Each test is worth 5 points. (20 points)
 - b) Aromas – Each participant will be asked to identify four different aromas from vials provided at each station and record the answer on the sheet provided. A list of potential aromas will be provided to each person. Each sample is worth 5 points. (20 points)

Aromas	
Apple	Maple
Banana	Molasses
Basil	Nutmeg
Butter	Onion
Cherry	Orange
Chocolate	Oregano
Cinnamon	Peach
Clove	Peppermint
Coconut	Raspberry
Coffee	Sage
Garlic	Smoke (liquid)
Ginger	Strawberry
Grape	Vanilla
Lemon	Watermelon
Licorice (anise)	Wintergreen
Lime	

References – this list of references is not intended to be all-inclusive. Other sources may be utilized, and teachers are encouraged to make use of the very best instructional materials available. The following list contains references that may prove helpful during event preparation.

National FFA Core Catalog – CDE questions and Answers, www.ffa.org

Principles of Food Science, 4th Edition, 2015. Janet Ward and Larry Ward, The Goodheart-Willcox Company, Inc.

Mehas and Rodgers, 5th Edition, 2006. Kay Yockey Mehas and Sharon Lesley Rodgers, Glencoe/McGraw, New York.

Food Science and Safety, 2nd Edition, 2004, George J. Seperich, Pearson Publishers

Principles of Food Sanitation, 5th Edition, 2006, Norman G. Marriott and Robert B. Gravani, Springer Science + Business Media, Inc.

Institute of Food Technology website, <http://www.ift.org>

USDA Food Safety and Inspection Service website, <http://www.fsis.usda.gov>

US Food and Drug Administration, www.FDA.org

ServSafe (FDA Approved Food Handling) website, www.servsafe.com

Penn State Kitchen Chemistry: Experiments, resources and materials for educators and students, <http://foodscience.psu.edu/public/kitchen-chemistry>

Food Safety Education, http://www.fsis.usda.gov/food_safety_education/for_kids_&teens/index.asp

Partnership for Food Safety Education, <http://www.fightbac.org>

FoodSafety.gov, <http://foodsafety.gov>

Food Science and Technology Contest

Team Product Development Project Scorecard

Team Name _____

Package Design	Possible Score	Team Score
Use and development of nutrition label		
<ul style="list-style-type: none"> Required information present 	10	
<ul style="list-style-type: none"> Correct calculations 	10	
<ul style="list-style-type: none"> Correct organization 	10	
Use and development of the ingredient statement		
<ul style="list-style-type: none"> Present 	10	
<ul style="list-style-type: none"> Correct order and all ingredients included 	10	
<ul style="list-style-type: none"> Location on package 	10	
Use of principle display panel to convey information		
<ul style="list-style-type: none"> All required components 	15	
<ul style="list-style-type: none"> Correct information 	15	
<ul style="list-style-type: none"> Location on package 	10	
Package Design Subtotal	100	
Product Development Oral Presentation	Possible Score	Team Score
Cost of Goods Sold	20	
<ul style="list-style-type: none"> Costing Accuracy 		
Nutrition	20	
<ul style="list-style-type: none"> Communicate nutritional quality of product Apply nutritional quality to health benefits 		
Target Audience	20	
<ul style="list-style-type: none"> Identification of key consumer 		
Quality Control	20	
<ul style="list-style-type: none"> Key quality attribute of consistent product Examples: Flavor, color, texture, net weight, size, etc. 		
Marketing & Sales	20	
<ul style="list-style-type: none"> Communicated with future users Promotions Market location 		
Product	20	
<ul style="list-style-type: none"> Appearance Texture Shelf-life Interaction of ingredients Creativity 		

Product Development Oral Presentation	Possible Score	Team Score
Processing <ul style="list-style-type: none"> • Description of how to make product • Equipment • Flow diagram, unit operations • People 	20	
Packaging <ul style="list-style-type: none"> • Materials used • Appropriate for use of product • Creativity 	20	
Food Safety <ul style="list-style-type: none"> • Discussed potential hazards/concerns associated with products 	20	
Formulation Concepts		
<ul style="list-style-type: none"> • How well did product match concept/product development scenario 	30	
<ul style="list-style-type: none"> • Category 	5	
<ul style="list-style-type: none"> • Platform 	5	
Quality of Presentation		
<ul style="list-style-type: none"> • Equitable participation of team members 	5	
<ul style="list-style-type: none"> • Organization 	5	
<ul style="list-style-type: none"> • Use of time allowed 	5	
<ul style="list-style-type: none"> • Professionalism 	5	
<ul style="list-style-type: none"> • Presence & Enthusiasm 	5	
<ul style="list-style-type: none"> • Mannerisms 	5	
Product Development Oral Presentation Subtotal	250	
Response to Judges' Questions	Possible Score	Team Score
Team Participation in Question Response <ul style="list-style-type: none"> • All team members contributed 	25	
Quality of Response <ul style="list-style-type: none"> • Accuracy • Ability to answer • Originality • Knowledge 	25	
Response to Judges' Questions Subtotal	50	
TOTAL POINTS	400	

Food Science and Technology Contest

Team Activity Preparation Rubric

Team Name _____

Indicator	Very strong evidence of skill 5 – 4 points	Moderate evidence of skill 3 – 2 points	Weak evidence of skill 1 – 0 points	Points Earned
Effective listening	Clearly evident that all team members are listening.	Listening occurs but distraction is evident.	Not listening to each other and/or talking over each other.	
Oral communication	Clearly evident that all team members are discussing the topic.	Communication occurs but side conversations are occurring or two to three members dominating.	One member dominating conversation.	
Demonstrated cooperation	Clearly all team members completing tasks, sharing written and oral solutions. Clearly all team members respected the input of other team members	Tasks primarily completed by two to three members, other members assist occasionally. Most team members respected the input of other team members.	Tasks primarily completed by one member, other members contributing only slightly. The team members did not respect the input of other team members.	
Participated in the team preparation	Clearly all team members are engaged, attentive, and making notes for the full term of event. Clearly all team members demonstrate efficient use of his/her time in comprising the plan.	Members are engaged and attentive with two to three making notes, participation fades over time. Most team members demonstrate efficient use of his/her time in comprising the plan.	One to two members form the primary team, other members participate occasionally early, fade over time. One to two team members demonstrate efficient use of his/her time in comprising the plan.	
			Total Points	

Food Science and Technology Contest

Team Food Safety Sanitation Report Form

TEAM NAME (SCHOOL) _____ SCORE _____

PLANT _____ DATE _____

LOCATION _____

INSPECTION TEAM MEMBERS' STATE _____ TEAM NUMBER _____

PLANT CONTACT _____

CONTACT INFORMATION _____

Category and Observation	Category (20 points)	Observation (20 points)	Degree of Concern Critical, Major, Minor (20 points)	Recommendation or Corrective Action (20 points)
<ol style="list-style-type: none"> 1. General maintenance of physical facilities. 2. Cleaning and sanitizing of equipment and utensils. 3. Storage and handling of clean equipment and utensils. 4. Pest control. 5. Proper use and storage of cleaning compounds, sanitizers, and pesticides. 6. Employee training. 7. Plant design. 8. Quality assurance assessment. 				

Food Science and Technology Contest

Customer Inquiry Scorecard

Name _____ Participant # _____

		Points Possible	Points Earned
Scenario #1 - This issue represented in this scenario is a: <ul style="list-style-type: none"> • Food Quality Issue • Food Safety Issue 	_____ _____	2	
Is the concern or hazard primarily: <ul style="list-style-type: none"> • Biological • Chemical • Physical 	(check only one) _____ _____ _____	3	
Scenario #2 - This issue represented in this scenario is a: <ul style="list-style-type: none"> • Food Quality Issue • Food Safety Issue 	_____ _____	2	
Is the concern or hazard primarily: <ul style="list-style-type: none"> • Biological • Chemical • Physical 	(check only one) _____ _____ _____	3	
Scenario #3 - This issue represented in this scenario is a: <ul style="list-style-type: none"> • Food Quality Issue • Food Safety Issue 	_____ _____	2	
Is the concern or hazard primarily: <ul style="list-style-type: none"> • Biological • Chemical • Physical 	(check only one) _____ _____ _____	3	
Scenario #4 - This issue represented in this scenario is a: <ul style="list-style-type: none"> • Food Quality Issue • Food Safety Issue 	_____ _____	2	
Is the concern or hazard primarily: <ul style="list-style-type: none"> • Biological • Chemical • Physical 	(check only one) _____ _____ _____	3	
Scenario #5 - This issue represented in this scenario is a: <ul style="list-style-type: none"> • Food Quality Issue • Food Safety Issue 	_____ _____	2	
Is the concern or hazard primarily: <ul style="list-style-type: none"> • Biological • Chemical • Physical 	(check only one) _____ _____ _____	3	

	_____	25	
TOTAL			

Food Science and Technology Contest

Food Safety and Sanitation Scorecard

Name _____ Participant # _____

Situation #1 – the situation depicts a violation of FMP, sanitation and/or food handling/storage (1 point). 1a) Yes _____ 1b) No _____ If yes, list the item number that would best apply from the list of guidelines provided (1.5 points): 1c) _____
Situation #2 – the situation depicts a violation of FMP, sanitation and/or food handling/storage (1 point). 2a) Yes _____ 2b) No _____ If yes, list the item number that would best apply from the list of guidelines provided (1.5 points): 2c) _____
Situation #3 – the situation depicts a violation of FMP, sanitation and/or food handling/storage (1 point). 3a) Yes _____ 3b) No _____ If yes, list the item number that would best apply from the list of guidelines provided (1.5 points): 3c) _____
Situation #4 – the situation depicts a violation of FMP, sanitation and/or food handling/storage (1 point). 4a) Yes _____ 4b) No _____ If yes, list the item number that would best apply from the list of guidelines provided (1.5 points): 4c) _____
Situation #5 – the situation depicts a violation of FMP, sanitation and/or food handling/storage (1 point). 5a) Yes _____ 5b) No _____ If yes, list the item number that would best apply from the list of guidelines provided (1.5 points): 5c) _____
Situation #6 – the situation depicts a violation of FMP, sanitation and/or food handling/storage (1 point). 6a) Yes _____ 6b) No _____ If yes, list the item number that would best apply from the list of guidelines provided (1.5 points): 6c) _____
Situation #7 – the situation depicts a violation of FMP, sanitation and/or food handling/storage (1 point). 7a) Yes _____ 7b) No _____ If yes, list the item number that would best apply from the list of guidelines provided (1.5 points): 7c) _____
Situation #8 – the situation depicts a violation of FMP, sanitation and/or food handling/storage (1 point). 8a) Yes _____ 8b) No _____ If yes, list the item number that would best apply from the list of guidelines provided (1.5 points): 8c) _____
Situation #9 – the situation depicts a violation of FMP, sanitation and/or food handling/storage (1 point). 9a) Yes _____ 9b) No _____ If yes, list the item number that would best apply from the list of guidelines provided (1.5 points): 9c) _____

Situation #10 – the situation depicts a violation of FMP, sanitation and/or food handling/storage (1 point).

10a) Yes _____ 10b) No _____

If yes, list the item number that would best apply from the list of guidelines provided (1.5 points): 10c) _____

TOTAL: _____/25 Possible Points

FORESTRY

Revised 06/2024

Purpose

The purpose of this contest is to stimulate student interest and to promote forestry instruction in the agricultural education curriculum and to provide recognition for those who have demonstrated skills and competencies as a result of forestry instruction.

Contestants

Teams consist of four members, with all four individual scores plus the compass activity team event score counting as the team score. All team members are eligible for individual awards. Individuals not on a complete team may also compete for individual awards.

State Finals will consist of two rounds. Round one will be the team event and knowledge portions and round two the remaining portions of the contest. Round one will be held Friday and round two will be held the following day.

Classes

The contest will consist of five divisions involving eight subject areas. A summary of these Skillsets are as follows:

Area	Description	Time	Individual Points	Team Points
Identification – Skillset I (150 points possible)				
AREA 1	Plant Identification	30	100	400
AREA 2	Identification of Forestry Equipment, Wood Species, and Wood Characteristics	30	50	200
Land Measurement – Skillset II (100 points possible)				
AREA 3	Acreage	30	30	120
AREA 4	Compass	30	20	80
	Map Reading	30	50	200
Forestry Knowledge and Table Interpretation – Skillset III (100 points possible)				
AREA 5	Forestry Knowledge	30	50	200
AREA 6	Graph and Table Interpretation	30	50	200
Timber Measurements - Skillset IV (100 points possible)				
AREA 7	Tree Height	20	30	120
	Diameter	20	40	160
	Log Scaling	20	30	120
Team Event – Skillset V (60 points possible - team score only)				
AREA 8	Timber Cruising	30		100
TOTAL			450	1900

Tie Breaker

1. In the case of ties, Plant Identification scores shall be used to break the tie.
2. If a tie continues to exist, it shall be broken by using the next area of the contest until the tie is broken.

Sub-contest Awards

Sub-contest awards will be given for high teams and individuals in the following areas: Identification – Skillset I, Land Measurement – Skillset II, Forestry Knowledge, and Table Interpretation – Skillset III, Timber Measurements – Skillset IV, Team Event – Skillset V (team only).

Host School Requirements

All equipment for the contestants will be available at the judging sites. Teams should be informed by email at the conclusion of the “on time registration date” with regards to the tools that they are expected to bring. Answer keys will be created by using the same tool that contestants are required to use. For example, the merriitt hypsometer will be used to determine the number of logs for given answer key.

Rules

- I. Contestants in the Forestry Contest will be divided into four groups so that only one member of a school or team will be in the same group at the same time (disqualification will result if this rule is broken). Only one group will be allowed at an area or site at one time.
- II. All ID including plants, tools, and wood; and knowledge will be presented in a scantron format.
- III. All adjustable tools and equipment provided by the host school will be calibrated so that the students will have the same opportunity to get the correct answer.
- IV. All contestants must fill out the official scorecard and will be graded according to the points shown on the scorecard.
- V. Calculators shall be allowed in all aspects of the contest. If a contestant is found using a programmable calculator, they are to be disqualified.
- VI. Contestants are encouraged to use their own measuring tapes (both logging and diameter tapes), non-adjustable measuring equipment, and surveying pins.
- VII. Identification (Skillset I)
 - A. AREA 1 Plant Identification (Appendix A)
 1. Fifty specimens from the Plants Identification list in Appendix A will be displayed.
 2. Fresh foliage is preferred and if fruit, flowers, or cones are available they will be part of the identification specimen. Otherwise, cones, fruit or flower, and stems shall be used with a pressed specimen (no more than five pressed items are allowed).
 3. The list in Appendix A and the score card shall list plants by scientific name, in alphabetical order, with common names listed on the right.
 4. Fruit and/or cones can be displayed by themselves if they are underlined in the plant list (not to exceed five fruits and/or cones on the contest).
 5. If contestants are not permitted to touch plants samples; needled plants should have a typical group displayed by taping to a 3x5 card next to the sample so needle length and other features can be observed.
 6. Students are permitted to use a ruler.
 7. Scoring Information
 - a) Time allowed: 30 minutes.
 - b) Total points for this event: 100.
 8. Scoring: 2 points for each correctly identified plant species.
 - B. AREA 2 Identification of Forestry Equipment (Appendix B), Wood Species and Wood Characteristics (Appendix C)
 1. Forestry Equipment Identification
 - a) 25 tools or forestry equipment items from the Forestry Equipment Identification list in Appendix B will be displayed.
 - b) No more than three (3) Stihl Chain Saw parts will be used.
 - c) All items will be clearly marked with a reference number for identification.

- d) Pictures or accurate models can be used for heavy equipment portion.
- e) Items must be good specimens of the equipment.

2. Wood Species Identification

- a) 5 wood samples from the Wood Species Identification list in Appendix C will be displayed.
- b) Contestants will identify wood samples as to wood type (species).
- c) Wood species samples will be typical of market lumber with all 3 wood surfaces shown (tangential, cross section and radial).

3. Wood Characteristics Identification

- a) Wood samples showing 10 at 2 points each from the Wood Characteristics List.
- b) Characteristics Identification list in Appendix C will be displayed.
- c) Natural or manufactured wood characteristics are to be identified. Each sample will be clearly marked.
- d) Characteristics will be indicated on the sample as follows:
 - (1) Knot shape will be marked on the sample if round knot or spike knot are wanted.
 - (2) Knot quality will be marked on the sample if encased knot, intergrown knot or knot cluster is to be identified.
 - (3) Grain will be marked on the sample to indicate that flat grain or vertical grain is to be identified.
 - (4) Wood surface will be marked on the sample to indicate that cross-section, tangential surface or radial surface is to be identified.
 - (5) Wood area will be marked on the sample if heartwood, pith, or sapwood is to be identified.
 - (6) All other characteristics will be plainly marked as to what is being asked for by circles, arrows, etc., and the characteristic should be the predominant characteristic on the sample.

4. Scoring Information

- a) Time allowed: 30 minutes.
- b) Total points for this event: 50.
- c) Scoring: One (1) point for each correctly identified forestry equipment item (25), wood species (5), and wood characteristic (20).

VIII. Land Measurement (Skillset II)

A. AREA 3 Acreage

- 1. A three to four-sided polygon with straight sides shall be measured for area in acres.
- 2. It will be free of obstructions so that it can be easily paced.
- 3. The acreage problem given must be 0.30 to 1.25 acres in area.
- 4. Scoring Information
 - a) Time allowed: 30 minutes.
 - b) Total points for this event: 30.
 - c) Scoring: One (1) point will be deducted for each .01 acres of error

B. AREA 4 Compass and Map Reading

1. Compass Reading

- a) The contestant will be provided with a bearing hand compass that has been set at a magnetic declination of zero and checked for accuracy prior to each contest.

- b) A polygon of 4 stations in the form of a traverse will be laid out in the field. Each forward station will be visible from each back station. The beginning and ending point will be Station A.
 - c) The contestant will start at Station A and determine the bearing to Station B. Contestant will move to the next station and determine the bearing to the forward station, continuing this procedure until finally determining the fourth bearing while sighting Station A. A total of 4 bearings will be determined. The contestant will record the answers on the form provided.
 - d) Scoring Information
 - (1) Time allowed: 30 minutes.
 - (2) Total points for this event: 20.
 - (3) Scoring: Five (5) points possible for each correct bearing. One (1) point deducted for each two (2) degrees of error.
2. Map Reading
- a) Contestants will be provided with a U.S. Geological Survey map such as the 7.5 minutes series map.
 - b) Specific points will be marked for the contestant to identify.
 - c) The contestant is expected to: know legal land description, recognize topographic map symbols, understand the meaning of map symbols, use the scale to correctly determine distance between points, calculate the number of acres in a parcel, and determine elevations.
 - d) Example questions:
 - (1) What is the legal land description of the five parcels marked?
 - (2) What is the item located at this point?
 - (3) What is the acreage of the area enclosed?
 - (4) What is the distance in miles from point A to point B?
 - (5) What is the elevation (on the contour line) at point C?
 - e) Five specific parcels will be indicated and numbered on a map and the student will determine the proper legal description.
 - f) The following parcels can be determined:
 - (1) 1/4 of a section
 - (2) 1/4 of a 1/4 section
 - (3) 1/2 of a section
 - (4) 1/2 of a 1/4 section
 - g) The legal description will be written as follows: NW 1/4, SE 1/4, Sec. 23, T4N, R2E, MDM. Abbreviations will be used as above except that section can also be written as S. (as on national contest). Commas can be replaced by the word of.
3. A Dot Grid may be used to determine acreage using either the 660 or 440 scale dot grid. The student will be provided with a dot grid and a map scale. Full point value will be awarded if calculations are within 10% of the total correct acreage.
4. Scoring Information
- a) Time allowed: 30 minutes.
 - b) Total points for this event: 50.
 - c) Scoring:
 - (1) Each correct parcel legal description is worth five points. Five parcels x 5 points each = 25 points. Partial credit will be allowed. For example, each error will have a deduction of one point. If NW 1/4 is correct and SW 1/4 is

the answer one point will be deducted. Other examples: incorrect Sec., etc., is one point de-ducted. Maximum of five points deducted per parcel.
 (2) Additional questions will be worth a total of 25 points.

IX. Forestry Knowledge and Graph and Table Interpretation (Skillset III)

A. AREA 5 Forestry Knowledge:

1. 25 questions from the Forestry Knowledge list in Appendix D will be selected.
2. Scoring Information
 - a) Time allowed: 30 minutes.
 - b) Total points for this event: 50.
 - c) Scoring: A total of 25 questions will be selected. Each question is worth two points each.

B. AREA 6 Graph and Table Interpretation: 50 points total.

1. Site Index

- a) A site index graph will be selected from those presented in Appendix E.
- b) Three sets of tree heights and tree ages will be given.
- c) The average tree height and age will be calculated by the contestant.
- d) The site index will be calculated by the contestant from their calculated averages and the graph provided. The site index will be scored correct within a range of plus or minus 2 site index reference numbers.
- e) Scoring Information
 - (1) Time allowed: 30 minutes total for both (a) site index, and, (b) board foot volume.
 - (2) Total points for site index: 20. Scoring will be based on the actual value plotted (not rounded to the nearest line).
 - (3) Scoring: Ten points will be given for the correct Site Index rating, five points will be given for the correct average height, and five points will be given for the correct average age.

2. Board foot volume

- a) The dbh and height for three trees will be given.
- b) Board foot volume will be determined using a volume table in units of board foot volume.
- c) Scoring Information
 - (1) Time allowed: 30 minutes total for both (a) site index, and, (b) board foot volume.
 - (2) Total points for this event: 30.
 - (3) Scoring: Ten points will be awarded for each correct total volume (one point deducted for each ten board feet off).

X. Timber Measurements (Skillset IV)

A. AREA 7 Timber Measurement

1. Tree Height

- a) Contestants will measure tree heights on two trees to the very top of the tree.

2. The clinometer will be used on one tree for total height, and either a logger's tape or a one hundred (100) foot tape will be used for measuring distance from the tree. Answers will be given in feet.

3. The Merritt Hypsometer will be used on one tree for number logs, and either a logger's tape or a one hundred (100) foot tape will be used for measuring distance from the

tree. Answers will be given in logs and ½ logs. When reading the hypsometer; answers will always be rounded down to the nearest half logs.

4. Scoring Information
 - a) Time allowed: 10 minutes.
 - b) Total points for this event: 30.
 - c) Scoring: 15 points per tree possible. One (1) point will be deducted for every foot of error using a Clinometer. Five (5) points will be deducted for every 1/2 log (8 feet) of error using a Merritt Hypsometer.
5. Tree Diameter
 - a) Contestants will measure four (4) trees for diameters. Diameter will be determined at dbh (4.5 ft.).
 - b) Trees A & B will be measured with a Biltmore Stick
 - c) Trees C & D will be measured with a diameter tape to the nearest 0.1 in.
 - d) Scoring Information
 - (1) Time allowed: 10 minutes.
 - (2) Total points for this event: 40.
 - (3) Scoring: Ten points will be scored for each diameter. One point will be deducted for each two (2) inches of error for trees measured with a Biltmore Stick. One point will be deducted for each 0.1 inch of error for the trees measured with a diameter tape.
6. Log Scaling (Appendix F)
 - a) A Scribner's Decimal C log scaling stick will be used.
 - b) The answer will be given in board feet. A log defect may be indicated and will be identified by its volume in either board feet or in Scribner's Decimal C.
 - c) No odd length logs will be used. If rounds are used for diameters, two rounds should be used, one for the small end and one for the large end. The log length will be given in even footage. Length rules are included in Appendix F. Rules for butt logs are also provided in Appendix F. If the contest is giving butt logs, this needs to be indicated on the log or score sheet clearly to the contestant.
 - d) Scoring Information
 - (1) Time allowed: 10 minutes.
 - (2) Total points for this event: 30.
 - (3) Scoring: Two logs will be measured at 15 points each. One point will be deducted for each 10 bd. ft. of error.

XI. Team Event (Skillset V) – Three team events will be used on a rotating basis.

1. 2025 Timber Cruising
2. 2026 Compass and Tape
3. 2027 Basal Area
4. 2028 Timber Cruising
5. 2029 Compass and Tape
6. 2030 Basal Area

B. Compass and Tape Measurement – Team Event

1. The four (4) team members will be given data for a four-sided traverse.
2. Compass bearings will be to the nearest one (1) degree.
3. The traverse will be set up by the judge with a staff compass, transit or an advanced technique that is superior to a transit. If the course is laid out with a compass, bearings will be true bearings and the compass used will be adjusted for declination.

4. Contestants will be supplied with a Silva Bearing compass and a 100 foot tape. All hand compasses will be set to 0 declination.
 5. Answers will be given as a measured distance from the contestant's ending point to the traverse beginning point. The answer will be compared to a known distance from the traverse ending point to the beginning point.
 6. The traverse ending point will be located at least 25 feet from the beginning point.
 7. Scoring Information
 - a) Time allowed: 30 minutes.
 - b) Total points for this event: 60.
 - c) Scoring: One (1) point will be deducted for every one (1) foot error.
- C. Basal Area – Team Event
1. A wedge prism of 10 factor will be used at the contest site and will be designated prior to the contest. It is encouraged to have at least one borderline tree in the plot.
 2. Scoring Information
 - a) Total points for this event: 60.
 - b) Scoring: Two (2) points will be deducted for each one square foot of error.
 - c) The answer for Basal Area must be reported in square feet per acre.
- D. Timber Cruising - Team Event
1. A cruisers stick will be used to determine the number of logs and diameter class of ten trees. Using the provided Scale table (Appendix H) students will determine the total scale and report their data on the provided table (Appendix G). Contestants will use board foot volume to determine a dollar value of the stand in dollars per thousand board feet (using the given rate of \$452/thousand board feet).
 2. Contest sights may elect to use fewer trees if ten are not available by providing data (logs and diameter class to plug into the table).
 3. Scoring Information
 - a) A correct answer will fall within \$226 of the determined dollar value amount. Teams will be penalized by five (5) points per each \$226 (half of given value/thousand) that their answer is off.

Appendices

- A – Plant Identification List
- B – Forestry Equipment Identification List
- C – Wood Identification Species and Characteristics List
- D – Forestry Knowledge List
- E – Site Index Graphs
- F – Log Scaling Lengths and Rules for Butt Logs
- G – Cruising Table
- H – Volume Table
- I – Basal Area
- J – References

Appendix A -- Plant Identification List

1	<u>Abies concolor</u>	White fir
2	Abies magnifica	Red Fir
3	Abies grandis	Grand Fir
4	Acer negundo	Box-elder
5	Acer macrophyllum	Big-leaf Maple
6	Adenostoma fasciculatum	Chamise
7	<u>Aesculus californica</u>	California Buckeye
8	Alnus rhombifolia	White Alder
9	Alnus rubra	Red Alder
10	Arbutus menziesii	Pacifica Madrone
11	Arctostaphylos spp.	Manzanita (California Native)
12	Baccharis pilularis	Coyote Bush
13	Berberis aquifolium	Oregon Grape
14	Betula occidentalis	Water Birch
15	<u>Calocedrus decurrens</u>	Incense Cedar
16	Ceanothus cuneatus	Buckbush
17	Ceanothus interrimus	Deerbrush
18	Ceanothus leucodermis	Chaparral Whitethorn
19	Cercis occidentalis	Western Redbud
20	Cercocarpus betuloides	Mountain Mahogany
21	Chamaebatia foliolosa	Sierra Mountain Misery
22	<u>Chamaecyparis lawsoniana</u>	Port Orford-Cedar
23	Chrysolepis chryophylla	Golden Chinkapin
24	Cornus nuttallii	Pacific Dogwood
25	Diplacus spp.	Monkey Flower (California Native, shrub)
26	Eriodactyon spp.	Yerba Santa
27	Fraxinus latifolia	Oregon Ash
28	Fremontodendron californica	Flannel Bush
29	<u>Hesperocyparis macrocarpa</u>	Monterey Cypress
30	Heteromeles arbutifolia	Toyon
31	<u>Jugalans californica</u>	California Black Walnut
32	Juniperus californica	California Juniper
33	Lupinus albifrons or arboreus	Bush Lupine or Tree Lupine
34	Natholithocarpus densiflorus	Tan Oak Tanbark Oak
35	<u>Picea sitchensis</u>	Sitka Spruce
36	<u>Pinus attenuata</u>	Knobcone Pine
37	<u>Pinus contorta</u>	Lodgepole Pine
38	<u>Pinus coulteri</u>	Coulter Pine
39	<u>Pinus jeffreyi</u>	Jeffrey Pine
40	<u>Pinus lambertiana</u>	Sugar Pine
41	<u>Pinus monophylla</u>	Singleleaf Pinyon Pine

42	<u>Pinus monticola</u>	Western White Pine
43	<u>Pinus muricata</u>	Bishop Pine
44	<u>Pinus ponderosa</u>	Ponderosa Yellow Pine
45	<u>Pinus radiata</u>	Monterey Pine
46	<u>Pinus sabiniana</u>	Foothill Pine Grey Pine
47	<u>Pinus torreyana</u>	Torrey Pine
48	Platanus racemosa	California Sycamore
49	Populus fremontii	Fremont Cottonwood
50	Populus trichocarpa	Black Cottonwood
51	Populus tremuloides	Quaking Aspen
52	<u>Pseudotsuga menziesii</u>	Douglas Fir
53	Pteridium aquilinum	Bracken Fern
54	Quercus agrifolia	Coastal Live Oak
55	Quercus chrysolepis	Canyon Live Oak
56	Quercus douglasii	Blue Oak
57	Quercus kelloggii	California Black Oak
58	Quercus lobata	Valley Oak
59	Quercus wilezinii	Interior Live Oak
60	Rhamnus spp.	Coffee Berry
61	Rhododendron occidentale	Western Azalea
62	Ribes spp.	Current or Gooseberry (California Native)
63	Rosea spp.	Rose (California Native)
64	Rubus parviflorus	Thimbleberry
65	Salix spp.	Willow (California Native)
66	Sambucus mexicana	Blue Elderberry
67	<u>Sequoiadendron giganteum</u>	Giant Sequoia
68	<u>Sequoia sempervirens</u>	Coast Redwood
69	<u>Taxus brevifolia</u>	Western Yew
70	<u>Thuja plicata</u>	Western Red Cedar
71	Torreya californica	California Nutmeg
72	<u>Tsuga spp.</u>	Mountain Hemlock or Western Hemlock
73	Umbellularia californica	California Bay Laurel
74	Woodwardia fimbriata	Giant Chain Fern

*Fruits and/or cones may be displayed by themselves from the plants that are underlined.

Appendix B – Forestry Tools & Equipment Identification List

1	Abney Level	38	Engineer's Tape
2	Altimeter	39	Fire Rake
3	Anemometer	40	Fixed Radius Plot Tape
4	Axe – Cruiser's	41	Flagging Tape
5	Axe – Double Bit	42	Forester's Hand Compass
6	Axe – Hand	43	Fusee
7	Axe – Single Bit	44	GPS – Hand Held
8	Bark Gauge	45	Hazel Tool
9	Back Pump	46	Hoedad
10	Brand Hammer	47	Hookeroon
	Chain Saw Parts Identification	48	Increment Borer
11	Chain Saw Chain	49	Jacob's Staff
12	Chain Saw File	50	Leveling Rod
13	Guide Bar	51	Logger's Tape
14	Oil Filler Cap	52	McLeod
15	Starter Grip	53	Peavy
16	Ignition Switch	54	Plumb Bob
17	Spark Plug	55	Pulaski
18	Throttle Lever Lock	56	Range Finder
19	Spark Plug Wire	57	Relaskop
20	Air Filter	58	Safety Hard Hat
21	Brake Lever	59	Scaling Stick
22	Fuel Filler Cap	60	Shovel
23	Choker Lever	61	Sledge (or Single Jack)
24	Throttle Trigger	62	Sling Psychrometer
25	Chaps A	63	Soil Tube
26	Choker B	64	Splitting Maul
27	Clinometer	65	Staff Compass
28	Cross cut Saw	66	Stereoscope
29	Cruiser's Stick	67	Surveying Pins
30	Data Recorder	68	Talley Sheet
31	Diameter Tape	69	Tree Caliper
32	Dot Grid	70	Tree Injector
33	Drip Torch	71	Tree Marking Gun
34	Dibble Bar	72	Tree Planting Bag
35	Dixie Pike Pole	73	Tree or Pole Climbers
36	Dumpy Level	74	Wedge Prism
37	Ear Protectors	75	Wedge – Falling
		76	Wedge - Splitting

Forestry Heavy Equipment

77	Skidder	81	Yarder
78	Feller-Buncher	82	Self Loading Log Truck
79	Dozer	83	Rubber Tire Loader
80	Logging Helicopter	84	Processor

Appendix C – Wood Identification Species and Characteristics List

Wood Identification Species List

1	Alder	7	Ponderosa Pine
2	Black Walnut	8	Sugar Pine
3	Coast Redwood	9	Western Red Cedar
4	Douglas-Fir	10	White Ash
5	Incense-Cedar	11	White Fir
6	Maple	12	Oak Species

Wood Identification Characteristics

Area:		Other:	
13	Heartwood	25	Birdseye
14	Pith	26	Flecks
15	Sapwood	27	Grub Holes
Grain:		28	Pitch Pocket
16	Flat Grain	29	Planer Miss or Skip
17	Vertical Grain	30	Season Check
Knot Quality:		31	Shake
18	Encased Knot	32	Split
19	Intergrown Knot	33	Stain
Knot Shape:		34	Timber Break
20	Round Knot	35	Unsound Wood (Rot)
21	Spike Knot	36	Wane
Wood Surface:		37	Warp
22	Cross Section	38	White Speck
23	Radial		
24	Tangential		

Appendix D -- Forestry Knowledge List

Forestry knowledge questions will be derived from this list.

No.	Term	Description
A	Acre	Ten square chains, or 208.7 ft. by 208.7 ft. square, or 43,560 square ft.
B	Afforestation	Establishment of a forest or stand in an area not previously forested.
C	Age-Class	Classification of a stand of trees based on when regeneration started.
D	Rotation-Age	Age at which a tree is ready to harvest.
E	Annual Ring	A summer and spring ring representing one growth year.
A	All-Aged	A stand of timber where all age classes are represented.
B	Aspect	Direction the slope faces.
C	Azimuth	Three hundred sixty (360) degrees on compass.
D	Back-Fire	Fire set along a control line which burns back into the fire.
E	Inner Bark	Area between the cambium and periderm.
A	Outer Bark	Layer of tissue outside of the last periderm layer.
B	Bearing Compass	A compass set up with four (4) 90 degree quadrants.
C	Tree Biomass	Weight of complete trees (living material).
D	Board Foot	The volume equivalent to a board one inch thick x twelve inches wide x twelve inches long.
E	Bole	Trunk or stem of a tree.
A	Breast Height	A point on a tree 4.5 ft. above the ground on the uphill side of a tree.
B	Controlled Burning	A deliberately started fire to accomplish a particular management purpose.
C	Burning Prescription	Describes the conditions and results to be garnered from a control burn.
D	Buck	To cut logs into specific lengths.
E	Butt Log	The first log above the stump.
A	Cambium	Growing tissue, produces xylem and phloem, that is part of the inner bark.
B	Chain	66 ft. measurement unit, or four (4) rods long.
C	Chaparral	A thicket of low, evergreen oaks or dense tangled brushwood.
D	Season Check	Lengthwise separation of wood which goes or extends across the rings of annual growth and is caused by stress during seasoning.
E	Clearcutting	Area in which the entire timber stand has been cut.
A	Codominant	Trees which are the average level of the canopy and receive light on the top but not necessarily on all sides of the crown.
B	Conifer	Cone bearing trees, usually evergreen.
C	Cord	Unit of measurement for stocked wood, four ft. by four ft. by 8 ft. (4' x 4' x 8') or 128 cubic feet.
D	Crown	The part of a tree or woody plant bearing live branches and foliage.
E	Crown Fire	Fire which has moved into the tops of the trees.
A	Cruise	Survey of forest lands to locate and estimate volume and grades of standing timber.
B	Cubic foot	A unit of true volume that measures 1 x 1 x 1 ft or the equivalent of 12 board feet.
C	Cunit	A unit of volume, usually pulpwood, that measures 100 ft ³ .

No.	Term	Description
D	Cull	Any item of production, e.g., trees, logs, lumber, or seedlings, rejected because it does not meet certain specifications of usability or grade.
E	Deciduous	Trees which usually drop all of their leaves more or less at one time, usually in the fall.
A	Mill Deck	Platform where logs are held in the sawmill prior to sawing.
B	Log Defect	Any irregularity or imperfection in a log which reduces the volume of sound wood or lowers the durability, strength or utility value.
C	Dendrology	Identification or systematic classification of trees.
D	Crown Density	The compactness of foliage of the crowns of trees and shrubs.
E	Dioecious	Male and female flowers produced on separate plants.
A	Dominant	Trees whose crowns extend above the average level of the forest canopy. They receive direct sunlight from above and some from the sides.
B	Duff	Organic debris in various stages of decomposition on top of the mineral soil.
C	Ecology	The study of the interrelationships between living organisms and the environment.
D	Even-Aged Management	Applied to a stand where relatively small age differences exist between individual trees. The maximum age difference is usually 10 to 20 years.
E	Tree Farm	Area usually privately owned which is dedicated to the production of timber products.
A	Surface Fire	A fire which burns over the forest floor and burns only the surface litter, loose debris and small vegetation.
B	Exploitation	Use of natural resources with economic greed as the primary motivation and the manipulation of the environment with no consideration for sustained yield.
C	Firebreak	A barrier existing or constructed before a fire to serve as a line from which work can be facilitated. Inflammable materials have been removed from the area and it is designed to stop creeping or running fires.
D	Multiple Use of the Forest	Management of the forest with concern for all natural resources including timber, wildlife, recreation, mining, watershed, and range. All of the uses are used without the harming or detrimental affects on the other uses.
E	Gall	A pronounced localized swelling of modified structure which occurs on plants usually as the result of the irritation or stimulus by another organism.
A	Girdle	To completely encircle the bole of a tree with cuts that completely sever the cambium layer eventually killing the tree.
B	Ground Fire	A fire which burns in the organic matter and down into the soil and roots.
C	Habitat	The site or area in which the plants or animals live. The unit area of the environment synonymous with site.
D	Hardwood	Wood produced by broadleaf trees; same as porous wood.
E	Heartwood	The inner core of the woody stem or bole wholly composed of nonliving cells and usually has a darker color.
A	Hectare	A unit of land measure within the metric system. About 2.471 acres.
B	Heeling In	Placing small bundles of bare-root seedlings in a shallow trench or hole and covering the roots.
C	Herbicide	A chemical used for killing or controlling the growth of plants.
D	Humus	Plant and animal residues of the duff which is in varying stages of decomposition.
E	Hypsometer	Instrument used to measure tree height using geometric or trigonometric principles.

No.	Term	Description
A	Intermediate Cuts	Harvest of trees made before a final harvest.
B	Intolerance	Inability of a tree to develop and grow in shade or in competition with other trees.
C	Kerf	Saw width of cut made by the saw. Basically sawdust residue.
D	Litter	Organic materials on upper layer of the duff.
E	Log	a) To cut and deliver logs aka logging. b) Tree segments, cut to length and suitable for lumber.
B	Lookout	A station used for detection of fires. Usually a tower at a high point so a good view of the forest is available.
C	Lop	To cut limbs from trees, whether standing, felled, or fallen.
D	Maturity	Age beyond which growth declines in a given species.
E	Mensuration	Science of measurement of volume and growth and development of individual trees and stands and of the products they produce.
A	Merchantable Log	Size of a log, usually 16 ft., which is marketable.
B	Mixed Stand	Less than 75% of the stems in the stand are of the same species.
C	Monoecious	Having male and female flowers on the same plant.
D	Overrun	Excess amount of lumber actually sawed from the logs compared to the estimated volume from scaling.
E	Overstory	Upper crown cover.
A	Pathology	Study of the science of diseases of forest trees or stands, and the deterioration of the products by the organisms.
B	Phloem	Inner bark, just outward of the cambium, that translocates food made in the leaves down to the branches, twigs and roots.
C	Photosynthesis	Process by which plants manufacture food and oxygen.
D	Pole (size class)	Name for trees less than 12 inch dbh. Young: dbh of 4 inches. Small: 4 to 8 inch dbh. Large: 8 to 12 inch dbh.
E	Pruning	The removal of live or dead stems from dead or living trees.
A	Pulpwood	Wood cut or prepared primarily to be used in wood pulp manufacture for paper products, etc.
B	Reforestation	The natural or artificial restocking of an area with forest trees.
C	Rot	Wood in a state of decay.
D	Rotation	The period of years required to establish and grow a timber crop to a specified condition of maturity.
E	Sapling (size class)	A tree usually 3-10 ft. in height with a 2-4 inch dbh. Not over 4 inch dbh.
A	Sapwood	The light colored wood which conducts water and nutrients to the crown of the tree.
B	Saw Timber	Trees that yield logs of suitable size and quality to be made into lumber.
C	Scale	Measuring to determine the sound volume or contents of a log or group of logs.
D	Seasoning	The process of reducing the moisture content of wood or lumber by exposing it to air or using a kiln.
E	Section	An area of land one mile square containing 640 acres.
A	Seeding	Planting of seed by man or by natural process.

No.	Term	Description
B	Seedling (size class)	A tree usually grown by natural process from seed that is less than three ft. tall and smaller than a sapling.
C	Seed Tree	A mature tree left for natural seed regeneration or for seed collection.
D	Shake	A lengthwise separation of the wood usually between the annual growth rings.
E	Shelterwood	The establishment of natural reproduction with a partial shade left to protect the young seedlings. Removal of the mature timber in a series of cuttings, cuts not more than 25% or less than 1/10th of the stand.
A	Shrub	A woody perennial with a multiple branching stem.
B	Silviculture	The growing or the art and science of tending the forest.
C	Site	An area considered as to its environmental or ecological factors.
D	Site Index	A species-specific measure of actual or potential forest productivity expressed in terms of the average height of trees at a specified index or base age.
E	Slash	The debris and materials (limbs, etc.) left over from logging.
A	Snag	A standing dead tree usually over 20 ft. in height. Under 20 ft. is termed a stub.
B	Softwood	Wood produced by coniferous trees; same as nonporous wood.
C	Springwood	Wood formed of less dense, larger, cells.
D	Pure Stand	A stand in which 75% or more of the species are of the same species .
E	Stumpage	The value of timber as it stands in the woods.
A	Sustained Yield	Continuous yield of forest products from a specific area, year after year.
B	Taper	The difference in diameter between any two points along the tree stem.
C	Thinning	Cutting in an immature stand to increase its rate of growth to foster quality growth, improve composition and to promote a healthy stand.
D	Shade Tolerance	The ability of a tree to withstand shade.
E	Township	36 sections; a six mile by six mile parcel of land.
A	Transpiration	The process by which water vapor passes from the foliage or other parts of a living plant to the atmosphere.
B	Tree	A woody plant which has a bole or trunk of at least 8 ft. which is well defined.
C	Wolf Tree	A tree taking up space which has no value itself but competes with wanted trees. Usually stubby, short boled trees with many limbs.
D	Undercut	A cut in felling trees which is what creates a notch determining which way the tree is to fall.
E	Understory	The forest growth below the overstory, or taller plants in the canopy.
A	Uneven-Aged Management	Management of a stand where different age classes are maintained.
B	Wildfire	Natural occurring fires or man induced fires which no matter how they were started are burning out of control.
C	Windfall	A tree uprooted by wind or broken off by wind.
D	Xylem	The principal water-conducting tissue and the chief supporting system of higher plants, composed of tracheids, fibers, and parenchyma.

APPENDIX E -- Table Interpretation: Site Index Graphs

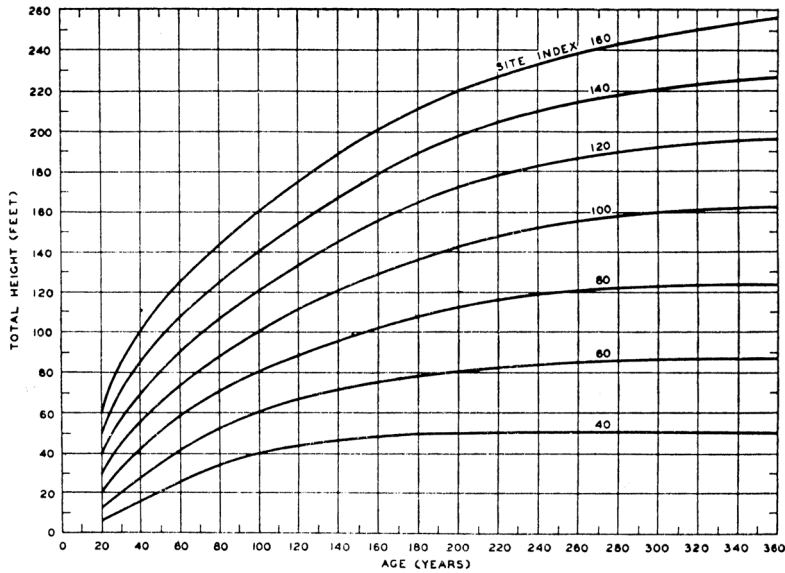


Figure A-4. Site index values of dominant and codominant ponderosa pine trees of average breast high diameter.

Fig 1. Ponderosa Pine Site Index Graph.

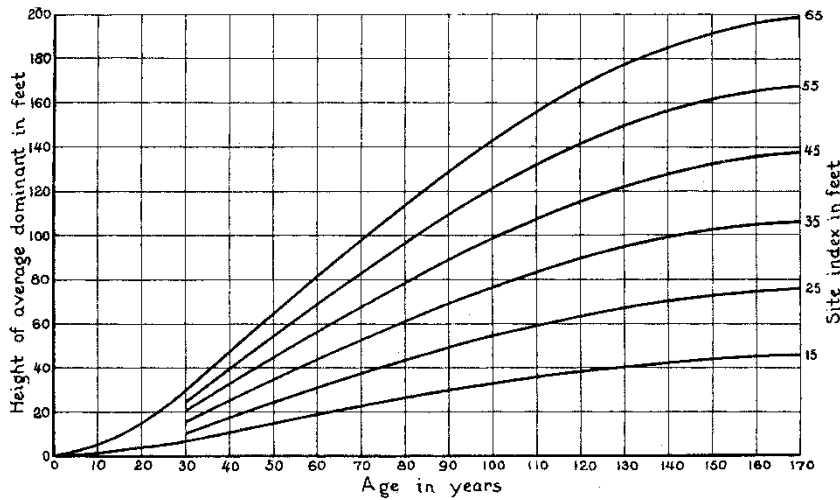


Figure A-6 Site index values of average dominant red fir trees.

U.C., Schumacher, 1928

Fig. 2. Red Fir Site Index Graph.

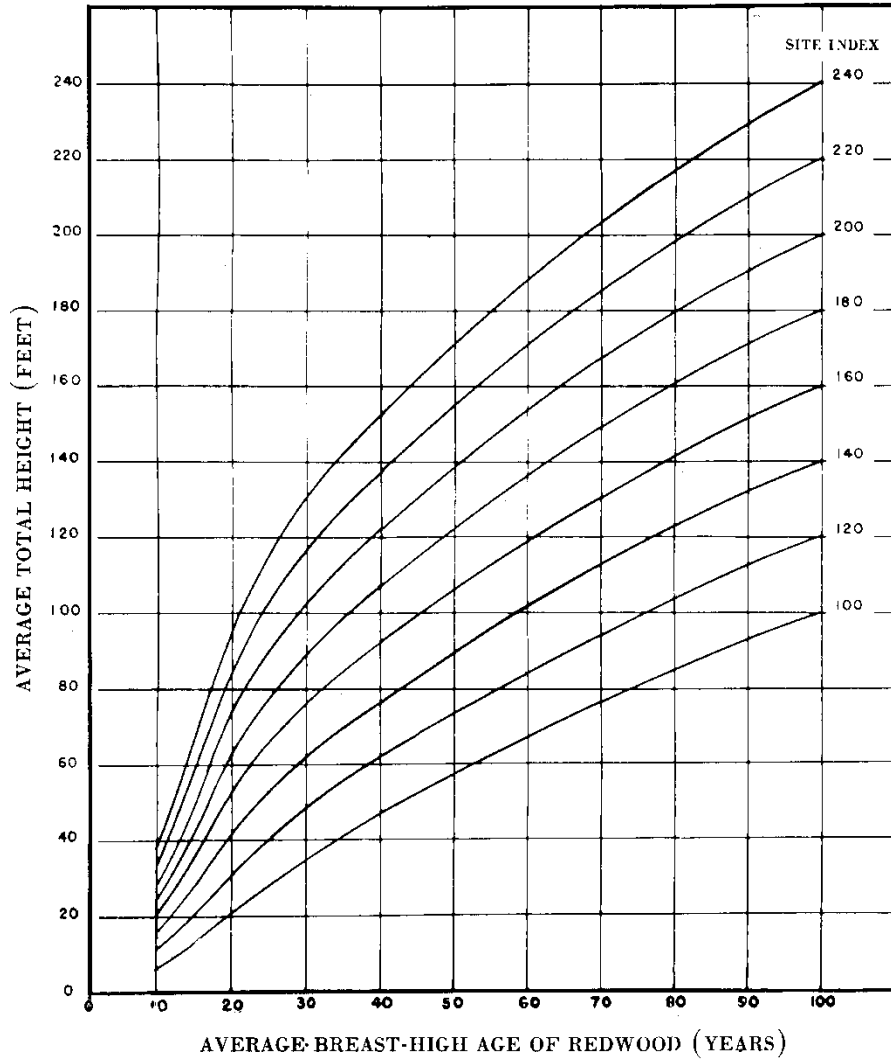


Figure A-1. Site index values of dominant redwood by height and breast-high age classes.

U.C., Lindquist and Palley, 1963

Fig. 3. Redwood Site Index Graph.

Appendix F -- Log Scaling

The following reference will be used for the log scaling portion of the Timber measurement Skillset, "National Forest Log Scaling Handbook" <https://fs.fed.us/im/directives/fsh/2409.11/2409.11-NF%20LOGSCALING%20HDBK.pdf>

Scaling Rules:

When logs are measured for length, they must be in even 2 foot increments that include 6 inches of trim if they do not have the needed 6 inches then they will be scaled to the next shorter 2 foot increment. For example a 16' 8" log would be scaled as a 16' log; a 16' 2" log would be scaled as a 14" log. Two segment logs must have a minimum of 1 foot of trim or 6 inches for each segment.

Rules for scaling butt logs:

- 20' and under, no taper
- 22' - 26', 1" taper per segment, 2" total taper.
- 28' - 40', 2" taper per segment, 4" total taper

Appendix G -- Cruising Table

<i>Tree Number</i>	<i>DBH</i>	<i>Ht</i>	<i>Volume in BF</i>
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
Total Volume			

Appendix H – Volume Table

FORM CLASS 65											
TABLE 34.—Gross volume of tree, Scribner log rule											
Tree diameter (inches)	VOLUME (board feet) BY NUMBER OF USABLE 16-FOOT LOGS										
	1	1½	2	2½	3	3½	4	4½	5	5½	6
10.....	16	19	22								
11.....	22	27	32								
12.....	28	35	42	46	50						
13.....	36	45	54	60	66						
14.....	43	55	67	75	83						
15.....	52	67	82	93	104						
16.....	61	79	97	111	125	133	141				
17.....	71	92	114	131	148	158	168				
18.....	81	106	132	151	170	183	196				
19.....	92	122	152	175	198	213	228				
20.....	104	138	173	200	226	243	260	273	286		
21.....	116	156	195	226	256	276	297	314	330		
22.....	129	173	217	252	287	310	334	354	375		
23.....	143	192	242	282	322	348	373	398	424		
24.....	157	212	267	312	356	384	412	442	472		
25.....	172	233	294	344	393	426	460	492	525		
26.....	187	254	320	375	430	468	507	542	578		
27.....	204	277	350	411	472	514	556	596	637		
28.....	221	300	380	446	513	559	605	650	696	737	778
29.....	239	326	412	484	557	606	656	708	760	808	857
30.....	257	350	444	522	601	654	708	766	825	880	936
31.....	276	378	479	565	651	711	771	832	894	957	1,020
32.....	296	405	514	608	701	768	834	898	962	1,033	1,104
33.....	316	434	551	652	753	826	898	967	1,036	1,114	1,193
34.....	337	462	588	696	805	883	961	1,036	1,110	1,196	1,282
35.....	360	495	630	747	864	948	1,032	1,113	1,194	1,284	1,373
36.....	382	527	672	797	922	1,012	1,102	1,190	1,279	1,372	1,464
37.....	406	560	714	850	986	1,082	1,178	1,275	1,372	1,470	1,568
38.....	429	592	756	902	1,049	1,151	1,253	1,358	1,464	1,568	1,672
39.....	454	628	803	958	1,113	1,224	1,334	1,443	1,552	1,663	1,774
40.....	478	664	850	1,014	1,177	1,296	1,414	1,526	1,639	1,757	1,875

Appendix I – Basal Area

Basal Area: Skillset V (60 points- team score only)				
	Total Basal Area measured in square feet per acre			60
TOTAL				60

Appendix J -- References

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FRUIT TREE JUDGING

Revised 6/2020

Purpose and Standards

The Fruit Tree Judging event seeks to effectively prepare the students to learn current agriculture pomology practices and procedures used in today's industry. Workers seeking careers in agriculture must not only develop a high degree of knowledge and skill, they must also develop the ability to solve difficult problems. This event blends the testing of manipulative skills and knowledge required for careers in agriculture production.

Foundation Standards: Mathematics Algebra, 15.0 and Geometry 8.0, 11.0. History & Social Science Principles of Economics: 12.2.2, 12.2.5, 12.2.6, 12.2.7. Communication: 1.1, 2.2, & 1.8.

Plant and Soil Pathway: G11.1, 5.0 5.3 and 11.1. Ag and Natural Resources Pathway: Health & Safety 6.0, 6.1, 6.2, 6.4, & 6.5.

Contestants

Teams consist of three members, with all three individual scores counting as the team score. All team members are eligible for individual awards.

Classes

Class	Individual Points	Maximum Team Points
Class #1	50	150
Class #2	50	150
Class #3	50	150
Class #4	50	150
Class #1 Reasons	50	150
Class #2 Reasons	50	150
Class #3 Reasons	50	150
Class #4 Reasons	50	150
Total	400	1200

Tie Breaker

1. The team or individual scoring the highest reason score(s) will be the winner.
2. If a tie still exists, Class #1 placing will be used to determine the high individual or team.
3. If a tie still exists, Class #2 placing will be used to determine the high individual or team.
4. If a tie still exists, Class #3 placing will be used to determine the high individual or team.
5. If a tie still exists, Class #4 placing will be used to determine the high individual or team.

Sub-contest Awards

Sub-contest awards will be given for high teams and individuals in the following areas: Class #1, Class #2, Class #3, and Class #4. (Reasons included in respective class sub-contests.)

Rules

- I. Classes to be judged:
 - A. Four classes of trees will be judging. They will be labeled 1, 2, 3, 4.
 - B. These classes will be young or bearing trees. One class will be almonds and the remaining classes will be selected from the following: apricots, apriums, nectarines, peaches, plouts, and plums. No more than one class will be given on each of these classes.
 - C. In giving reasons, the students may look at their notes while giving their reasons for a deduction of five (5) points for every time they look at their notes. If a student reads their reasons, then the maximum they can score is twenty-five (25) points.
- II. Contestants will be graded 50 percent for correct placement and 50 percent for oral presentations of reasons. Reasons are to be judged according to the following scores:

1. Subject Matter	60%
2. Logic and Force	30%
3. Bearing and Address	10%
- III. Twenty minutes will be allowed for judging each class. The contestant's reasons will be stopped at two (2) minutes each class.
- IV. The following score card used in judging trees has been reproduced for the instructor's convenience.
- V. Judging of mature trees will be based on the trees merit on the day of judging.

TREE JUDGING SCORE CARD

	Values	
	Bearing Trees	Non-Bearing Trees 1-4 yrs
1. Size	15	15
a. Height of Tree		
b. Spread of Branches		
c. Circumference of Trunk		
2. Framework	15	20
a. No. of Primary Scaffolds 3-4		
b. Ht. Of Primary Scaffolds 24-30 inches from the ground		
c. Distribution - 6-10 inches apart		
d. No. of Secondary Scaffolds 5-7		
e. Ht. Of Secondary Scaffolds		
f. General Symmetry of tree (Vase Shaped, Modified Leader Type)		
3. Pruning	15	20
a. System should be in accord with length, growth-severe, moderate or light		
b. Fruiting wood evenly distributed		
c. Interfering branches and dead wood removed		
d. Pruning cuts properly made and treated		
4. Vigor	15	25
a. Dark green large leaves		
b. Sufficient new wood past season		
c. New wood in good condition - not spindling		
5. Fruitfulness	20	
a. Amount of condition of fruiting wood		
b. Amount and condition of fruiting buds, blossoms or fruit		
c. Yield - amount and quality		
6. Health	20	20
a. Fungus or bacterial diseases		
b. Insect pests		
c. Physiological diseases		
d. Mechanical injury		
e. Sunburn		
f. Frost injury		
TOTAL	100	100

FRUIT TREE PRUNING

Revised 6/2010

Purpose and Standards

The Fruit Tree Pruning event seeks to effectively prepare the students to learn current agriculture pomology practices and procedures used in today's industry. Workers seeking careers in agriculture must not only develop a high degree of knowledge and skill, they must also develop the ability to solve difficult problems. This event blends the testing of manipulative skills and knowledge required for careers in agriculture production.

Foundation standards: Mathematics Algebra, 15.0 and Geometry 8.0 & 11.0. History & Social Science Principles of Economics: 12.2.2, 12.2.5, 12.2.6, 12.2.7. Communication: 1.1, 2.2, & 1.8. Plant and Soil Pathway: G11.1, 5.0 5.3 and 11.1. Ag and Natural Resources Pathway: Health & Safety 6.0, 6.1, 6.2, 6.4, & 6.5.

Contestants

The team shall consist of three members who have received enough training so they can properly prune peaches and plum trees, with all three individual scores counting as the team score. All team members are eligible for individual awards.

Classes

Class	Individual Points	Team Points
Written Quiz	100	300
Pruning Class	50	150
Pruning Reasons	50	150
Pruning Mature Plums	100	300
Pruning Mature Peaches	100	300
Pruning Mature Peaches (Canning)	100	300
TOTAL	500	1500

Tie Breaker

1. The team or individual scoring the highest reason score(s) will be the winner.
2. If a tie still exists, the total score of the individual or team will be used to determine the high individual or team.

Sub-contest Awards

Sub-contest awards will be given for high teams and individuals in the following areas: Written Quiz, Pruning class (judging and reasons), Pruning Mature Plums, Pruning Mature Peaches, and Pruning Mature Peaches (Canning).

Rules

- I. The contest shall consist of the following areas:
 - A. Part 1. A written quiz on "Pruning Deciduous Fruit Trees" by Tufts and Harris; U.C. Circ. -444, 1955.
 1. Value 100 points.

2. Time: Thirty (30) minutes
- B. Part 2. The contestant shall prune a scaffold in the presence of the judge – not to exceed 5 minutes. The contestant will be subjected to oral questions and may provide oral explanations while pruning.
1. Value of 100 points total with 50 points being from quality of pruning and 50 points for reasoning/questions.
- C. Part 3. Pruning a mature plum tree (no reasons will be given). Pruning methods will be compared to those used for standard Santa Rosa type plums for quality fruit.
1. Any student who is, in the judgment of the judge, pruning improperly, will be asked to stop pruning.
 2. The contestant should be allowed to complete as much of the tree as possible, while keeping the point values of speed and quality of work in proper relationship as stated on the scorecard.
 3. Value of pruning plum trees - 100 points. (Scorecard is enclosed).
 4. Time: Twenty (20) minutes is allowed for pruning plums.
- D. Part 4. Pruning a mature peach tree. (No reasons will be given.) Pruning methods will be compared to those used for standard type peaches for quality fruit. Each student will be issued at least one tree when possible.
1. The host school will issue a listing of the thinning requirements of the peach tree as to:
 - a) heavy thinning
 - b) medium thinning
 - c) light thinning
 2. Value - 100 points are allowed for this class.
 3. Twenty (20) minutes are allowed for pruning peaches.
 4. Same scorecard as used for plums.
- E. Part 5. Pruning a mature peach tree (no reasons will be given). Pruning methods will be compared to those used for standard canning type peaches for quality fruit. Any student who is, in the judgment of the judge, pruning improperly, will be asked to stop pruning.
1. The contestant should be allowed to complete as much of the tree as possible, while keeping the point values of speed and quality of work in proper relationship as stated on the scorecard.
 2. Value of pruning the canning peach tree – 100 points.
 3. Time: 20 minutes is allowed for pruning canning peaches.

SCORECARD

NON-BEARING (1 & 2 years old **Training System (Open or Vase)

	Points	Score
Points		
A. Framework (60 points)		
1. Height of head	13	
2. Number of primaries	13	
3. Distribution	13	
4. Number of secondaries	7	
5. Distribution of secondaries	7	
6. General symmetry	7	
B. Pruning (30 Points)		
1. Method of pruning: procedure systematic	3	
2. Kind of wood left	4	
3. Thoroughness	6	
4. More brush left on windward side	3	
5. Severity of pruning in proportion to growth	7	
6. Proper cuts	3	
7. Speed	4	
C. Handling and Use of Equipment		
1. Shears & Saws	4	
D. Condition of Equipment	4	
E. Proper dress	2	
Total Points Possible	100	
	Total Points	

Pruning Deciduous Fruit Trees

MATURE TREES

	Points	Score
A. FRAMEWORK (20 pts.)		
1. Number of Tertiary Scaffolds	5	
2. Spacing of Tertiary Scaffolds	5	
3. General Symmetry of tree	5	
4. Top cut made to proper lateral	5	
B. KIND OF PRUNING (50 pts.)		
1. Kind of pruning based upon length of growth age of tree and use of fruit - severe moderate light	25	
2. Amount and kind of fruit wood left	10	
3. Amount of spacing of fruit wood	15	
C. THOROUGHNESS OF PRUNING (20 pts.)		
1. Cuts made properly	15	
2. All objectionable growth removed	5	
D. CONDITION AND USE OF EQUIPMENT (10 pts.)		
1. Condition of pruning Shears	5	
2. Ability to handle ladder properly	5	
SUB TOTAL	100	
E. SPEED OF WORK (Deduct)		
1. Deduct 1-10 points if not finished with pruning		
TOTAL	100	

Part 2. Scaffold Pruning –

	Points	Score
A. KIND OF PRUNING (30 pts.)		
1. Kind of pruning based upon length of growth age of tree and use of fruit – severe moderate light	15	
2. Amount and kind of fruit wood left	10	
3. Amount of spacing of fruit wood	5	
B. THOROUGHNESS OF PRUNING (15 pts.)		
1. Cuts made properly	10	
2. All objectionable growth removed	5	
C. CONDITION AND USE OF EQUIPMENT (5 pts.)		
1. Condition of pruning shears	2	
2. Ability to handle ladder properly	3	
SUB TOTAL	50	
D. SPEED OF WORK (Deduct)		
1. Deduct 1-10 points if not finished with pruning	1-10	
TOTAL	50	

GRAPEVINE JUDGING

Revised 6/2024

Purpose and Standards

The grapevine pruning event seeks to effectively prepare agricultural students for the expectations of the viticulture workplace. Workers seeking a career in viticulture must not only develop a high degree of knowledge and skill, they must also develop the ability to critique issues, problem solving, and access a vineyard. This event prepares students for such tasks. California Career Technical Education Model Curriculum Standards addressed by this event include:

Foundation Standards: Mathematics 13, Science 10, Writing & Oral English Language 1.1, Listening & Speaking 2.2a, Problem Solving & Critical Thinking 5.1, 5.2, 5.3, Leadership & Teamwork 9.2, 9.3, 9.5, 9.6, and Technical Knowledge & Skills 10.2.

Pathway Standards: Agriscience Pathway: C2.1, C11.1, C12.1, C12.2, and C12.3. Plant Science & Soil Science Pathway: G3.1, G3.6, G10.1.

Contestants

The team shall consist of three or four members. The scores of the three highest team members shall be used for the team score. All team members are eligible for individual awards.

Classes

The Grapevine judging shall consist of judging and reasons for four classes of vines as follows:

Class	Individual Points	Team Points
Class 1 - A class of four (4) bearing cordon pruned vines. (Wine type)	50	150
Class 2 - A class of four (4) bearing cane pruned vines. (Wine type - 2 wire trellis)	50	150
Class 3 - A class of four (4) bearing cordon pruned vines. (Table type)	50	150
Class 4 - A class of four (4) bearing cane pruned vines. (Table type – 3 wire trellis)	50	150
Reasons Class 1	50	150
Reasons Class 2	50	150
Reasons Class 3	50	150
Reasons Class 4	50	150
TOTAL	400	1200

Tie Breaker

1. The team or individual scoring the highest reason score(s) will be the winner.
2. If a tie still exists, Class #1 placing will be used to determine the high individual or team.
3. If a tie still exists, Class #2 placing will be used to determine the high individual or team.
4. If a tie still exists, Class #3 placing will be used to determine the high individual or team.
5. If a tie still exists, Class #4 placing will be used to determine the high individual or team.
6. If a tie still exists, the total score of the individual or team will be used to determine the high individual or team.

Sub Contest Groupings

1. Class #1 (placing and reasons) Top five individuals and teams will be awarded ribbons.
2. Class #2 (placing and reasons) Top five individuals and teams will be awarded ribbons.
3. Class #3 (placing and reasons) Top five individuals and teams will be awarded ribbons.
4. Class #4 (placing and reasons) Top five individuals and teams will be awarded ribbons.
5. Reasons - Top five individuals and teams will be awarded ribbons.

Rules

- I. Twenty minutes will be allowed for judging each class and two minutes per contestant to present reasons in each class. Reasons presentation will begin directly after judging each class.
- II. Contestant Rules:
 - A. Contestants are not permitted to carry any material other than a blank notebook or blank cards, pencil or pen. Contest officials will check notebooks and/or blank cards prior to start of the contest.
 - B. Talking among contestants while the judging is in progress or while preparing reasons is strictly forbidden and can result in disqualification.

GRAPEVINE SCORE CARD

FACTORS	VALUES
I. SIZE & SHAPE	20
A. Straightness of trunk	
B. Form of head/cordon	
1. Proper balance of framework	
C. Height of head/cordon	
II. PRUNING	25
A. Quality of fruiting wood left in pruning	
1. Size of canes or spurs	
2. Length of internodes	
B. Even distribution of fruiting wood	
C. Proper usage of renewal or replacement spurs	
D. Thoroughness of pruning	
III. VIGOR AND CAPACITY	15
A. Length of current shoot growth	
B. Number of current shoots growing	
C. Uniformity of current shoot growth	
IV. FRUITFULNESS	25
A. Number of clusters showing	
B. Development of clusters	
V. HEALTH	15
A. Fungus or bacterial disease	
B. Insect pests	
C. Physiological disease	
D. Mechanical injury	
E. Sunburn	
F. Frost injury	
TOTAL	100

REASON'S SCORE SHEET

	Score
<ul style="list-style-type: none"> Contestant NOT Present 	0
<ul style="list-style-type: none"> Expresses Lack of Preparedness: States "I don't have anything to say" or does not give any reasons. 	0
<ul style="list-style-type: none"> Poorly Organized Reading: Reads notes with disorganized structure and improper or no terminology usage. 	5-9
<ul style="list-style-type: none"> Fairly Complete Reading: Reads notes with somewhat organized structure, some proper or no proper usage of terminology and there is room for improvement 	10-14
<ul style="list-style-type: none"> Excellent Note Reading: Reads notes with precision, organized structure, strong usage of terminology and confidently defends their placings 	15-20
<ul style="list-style-type: none"> Glimpses at Notes: Glances at at notes multiple times during presentation but has precision, organized structure, strong usage of terminology and confidence. 	20-24
<ul style="list-style-type: none"> No Notes, Poor Presentation: Presents without notes, demonstrating improper or no terminology usage and weak presentation organization. 	25-34
<ul style="list-style-type: none"> No Notes, Basic Terms: Presents without notes, uses proper terminology but lack's depth or accuracy 	35-39
<ul style="list-style-type: none"> No Notes, Fair Presentation: Presents without notes, utilizing good terminology and fair organization but lacks confidence on their placings. 	40-44
<ul style="list-style-type: none"> No Notes, Strong Presentation: Delivers a compelling presentation without relying on notes, showcasing outstanding knowledge of terminology, organization, and confidently defends their placings. 	45-50

GRAPEVINE PRUNING

Revised 6/2017

Purpose and Standards

The Grapevine Pruning event seeks to effectively prepare the students to learn current agriculture viticulture practices and procedures used in today's industry. Workers seeking careers in agriculture must not only develop a high degree of knowledge and skill, they must also develop the ability to solve difficult problems. This event blends the testing of manipulative skills and knowledge required for careers in agriculture production.

Foundation standards: Mathematics Algebra, 15.0 and Geometry 8.0 & 11.0. History & Social Science Principles of Economics: 12.2.2, 12.2.5, 12.2.6, 12.2.7. Communication: 1.1, 2.2, & 1.8. Plant and Soil Pathway: G11.1, 5.0 5.3 and 11.1. Ag and Natural Resources Pathway: Health & Safety 6.0, 6.1, 6.2, 6.4, & 6.5.

Contestants

The team shall consist of three or four members. The scores of the three highest team members shall be used for the team score. All team members are eligible for individual awards.

Classes

Class	Individual Points	Team Points
Written Exam	100	300
Pruning Class #1	100	300
Pruning Class #2	100	300
Pruning Class #3	100	300
Total	400	1200

Tie Breaker

1. The team or individual scoring the highest written examination score(s) will be the winner.
2. If a tie still exists, the total score of the individual or team will be used to determine the high individual or team.

Sub-contest Awards

Sub-contest awards will be given for high teams and individuals in the following areas: Written Exam, Pruning Class #1, Pruning Class #2, and Pruning Class #3.

Host School Requirements

The State Finals hosting site will announce the three classes (see below) and if possible, announce the varieties to be pruned for that year's event at least 30 days prior to the contest date.

Rules

- I. Written examination. Prepared from Winkler's Viticulture Text, chapter on pruning, with emphasis on modern, practical California Viticultural practices. Time limit: 45 minutes.
- II. Each contestant shall prune three mature grapevines in each of the three different classes to be selected from the following list.
 - A. Cordon - wine
 - B. Cordon - table

C. Cane - raisin/wine/table

- III. The first two spur pruned vines will be pruned against time (8 minutes limit). The first two cane pruned vines will be pruned against time (10 minute limit). The third vine of each system shall be pruned in the presence of the judge. The contestant will be subjected to oral questions and may provide oral explanations while pruning. Time with the judge is not to exceed four (4) minutes. Judges will score the vines as a class of three giving a score based on overall pruning for all three vines.
- IV. Each team member must wear protective eye glasses, Z87 standard wear to be provided by the state contest host site.
- V. A total of 400 points is allowed for the contest (100 points for examination and 100 points for pruning each of the systems listed above).

SEE FOLLOWING PAGES FOR SCORE CARDS.

Variety: _____ System: Spur
Contestant Number _____ Vine Pruning Scorecard

Grapevines are to be judged as a class and based on ability to prune, thoroughness, and proper techniques.		
1. Position and distribution of renewal and replacement spurs		_____/20
2. Number of fruit spurs		_____/20
3. Proper selection of fruit spurs		_____/20
4. Length of spurs		_____/10
5. Clean and proper cuts		_____/10
6. Thoroughness of pruning		_____/5
7. Explanation of cuts/pruning using proper terminology and reasoning		_____/15
I.		
II. Deduct 20 points if contestant did not complete pruning of two vines in 8 minutes.		-20
III.		
IV. Total Points Awarded		_____/100

Judge's Remarks:

Judge's Signature _____

Variety: _____ System: Cane

Contestant Number _____ Vine Pruning Scorecard

Grapevines are to be judged as a class and based on ability to prune, thoroughness, and proper techniques.		
1.	Position and distribution of fruit canes	_____/20
2.	Number of fruit canes	_____/20
3.	Proper selection of fruit canes	_____/15
4.	Proper selection of renewal and replacement spurs	_____/5
5.	Length of canes	_____/15
6.	Clean and proper cuts	_____/5
7.	Thoroughness of pruning	_____/5
8.	Explanation of cuts/pruning using proper terminology and reasoning	_____/15
V.		
VI.	Deduct 20 points if contestant did not complete pruning of two vines in 10 minutes.	-20
VII.		
VIII.	Total Points Awarded	_____/100

Judge's Remarks:

Judge's Signature _____

IMPROMPTU PUBLIC SPEAKING

Revised 6/2023

Purpose and Standards

The purpose of the Impromptu Public Speaking Career Development Event is to foster and develop the speaking abilities of FFA members as well as develop their self-confidence and contribute to their advancement in inter-personal skill attainment and leadership development. The intention of the Impromptu Contest is to offer a more realistic, practical speaking contest to better prepare our students for public statements, media coverage, and general questions about the FFA and Agriculture Industry. Students will develop the valuable speaking skills necessary to be professional, competent public representatives of the FFA Organization and Agriculture Industry.

The primary purpose of the event is to demonstrate the student's ability with limited preparation time to compose and deliver coherent and focused oral presentations.

Foundation Standards: Communications – Reading 2.0, 2.1, 2.2, 2.3, 2.4, 2.6, 2.7, 2.8. Writing 1.1, 1.2, 1.3, 1.5, 1.6, 1.7, 1.8, 2.3, 2.6. Written and Oral English Language Conventions 1.1, 1.2, 1.3. Listening and Speaking 1.1, 1.8, 2.2, 2.3. Technology 4.2, 4.3, 4.5, 4.6. Problem Solving and Critical Thinking 5.1, 5.3. Health and Safety 6.1, 6.2, 6.6. Responsibility and Flexibility 7.1, 7.2, 7.3, 7.4, 7.5, 7.6. Ethics and Legal Responsibilities 8.1, 8.2, 8.3. Leadership and Teamwork 9.1, 9.2, 9.3, 9.4, 9.5, 9.6. Technical Knowledge and Skills 10.2.

Demonstration and Application – Students will demonstrate and apply the concepts contained in the foundation and pathway standards.

Contestants

- I. Each section will determine how many chapter members may participate at the sectional level. Each region will determine how many sectional participants may compete at the regional level. Participation at the state level is limited to the top 50% of those that participate in the regional contest (or major portion thereof), with a maximum of four (4) per region.
- II. This contest will be open to students who are active members of chartered FFA chapters in good standing with the State Association and the National Organization in grade 10.

Tie Breaker

In case of a tie, that individual who has the highest grand total score shall have prior rating. Secondary Tie Breaker will be ranking in Questions Round.

Rules

- III. General Plan
 - A. The preliminary contests are local, sectional and regional in nature. All regional and state contests must follow the rules of the State Impromptu Public Speaking Contest. Judges will not question participants.
- IV. Eligibility
 - A. Public Speaking contestants will adhere to the official FFA dress uniform at all levels of participation.

- B. A student may not participate in the Creed, Impromptu Public Speaking, Prepared Public Speaking, Extemporaneous Public Speaking, or Job Interview Contests at the state level in the same year.
 - C. A contestant who is not present at the time of drawing for speaking order shall not be eligible for the contest.
- V. Subjects
- A. There will be two rounds of speaking. One round will contain topics in the form of questions that students could potentially encounter from administrators, peers, teachers, news media, or the general public with regards to the FFA Program or the Agriculture Industry. Referred to as the “Questions” Round. The other round will contain topics derived from keywords or quotes relating to leadership and the Agriculture Industry. Referred to as the “Keywords/Quotes” Round.
 - B. No less than 10 topics per round will be developed each year by the current State Contest Coordinator. Practice topics will be made available for Chapter competition. Section and Region topics will be delivered directly to the contest coordinator at each level.
 - C. Previous year topics will be published for student preparation and practice. (Same as the current practice with Extemporaneous Speaking)
 - D. Upon entering the presentation room, contestants will have one opportunity to draw and select their topic for that round. The contestant will draw three topics from the selection. The contestant will have 30 seconds to choose the topic on which he/she will speak and the time starts when the first card is drawn. After selecting one of those topics, on which he/she desires to speak, all three topics will be returned to the original group of topic areas, prior to the next drawing. The contestant may hold onto the topic card they have selected throughout their performance, but must return the topic before leaving the room.
 - E. Speaker will tell the judges the topic they have selected before beginning the 1 minute preparation time.
- VI. Time Limit
- A. Each student will receive 1 minute to review and prepare their thoughts on the topic they selected. The timekeeper in the room will alert the student when their preparation minute has begun, as well as, when the preparation minute ends. (Similar to the Parliamentary Procedure Minute)
 - B. Each speech shall be a minimum of 30 seconds in length and a maximum of two minutes. At the end of 2 minutes, the timekeeper will announce “time” and the speaker will stop speaking. Timekeeper will record all speech times.
 - C. Deductions of 20 points will be made from the score of each judge for speeches that are under thirty seconds or continue to speak after the timekeeper has announced “time”.
- VII. Methods of Selecting Winner
- A. Local contests will be under the direction of the local agriculture teacher.
 - B. Sectional and regional contests will be under the direction of the Regional Supervisor concerned. If there are more than 16 contestants entered into the entire contest, there should be preliminary rounds to make a maximum of 16 students for the final.
 - C. At the discretion of the contest coordinator, the competition will start in either the Question Round or in the Keyword/Quotation round and proceed to the other round. Contestants will draw for order. There will be a minimum of 2 judges and a maximum of 3 judges.
 - D. The round monitor shall then introduce each speaker by name. Only one contestant is allowed in the presentation room at a time. A contestant will not be permitted to use any outside materials while speaking. Applause are allowed after the contestant has spoken.

- E. Timekeepers shall be designated who will record the time used by each contestant in delivering his/her speech, noting under time and overtime, if any, for which deductions should be made.
- F. At the time of the contest, the judges will be seated in different sections of the room in which the contest is held. They will score each contestant upon delivery of the production, using the scoresheet provided.
- G. When all contestants have finished speaking, each judge will total his/her score on composition and delivery for each contestant. The timekeeper's record will be used in computing the final score for each contestant.
- H. Contestants shall be ranked in numerical order on basis of final score to be determined by each judge without consultation with each other. Judges may ask each other to clarify a given response from speakers prior to ranking the contestants.
- I. The judges' ranking on each contestant in each round shall then be added by the contest superintendent in view of the judges and the winner shall be the contestant whose total ranking is the lowest. Other placings shall be determined in the same manner (low points score method of selection). In case of a tie, that individual who has the highest grand total score shall have prior rating.
- J. Contestants are not permitted to use any type of prop, chart, graph, computer, visual aide, and/or musical playing instrument/equipment during their speech, including the use of timing devices.

VIII. Awards

- A. Awards will be presented to contestants by the California Association of the Future Farmers of America and the California Future Farmers of America Foundation, Inc., through the intercession of the contest administrator concerned.

Explanation of Score Sheet Points

Keep in mind that there is no requirement that a contestant must use a particular style of delivery.

Please use the following questions to help you evaluate each contestant and rank the round.

JUDGES COMMENT CARD

			Name of Contestant:
Did the student clearly and effectively discuss, analyze and evaluate the selected topic?	10		
To what degree did the student address all parts of the question or quote?	10		
Did the student present an organized, logical speech?	10		
Score (on Content)	30		
To what degree did the speaker use effective oral presentation skills (volume, diction, speed of delivery)?	10		
Was the speaker poised, sincere and comfortable in delivery?	10		
Did the speaker use effective body language (gestures, facial expression, eye contact)?	10		
To what degree did the speech exemplify professional standards of language usage and vocabulary?	10		
Did the speaker avoid slang, poor grammar, and mispronunciations?	10		
To what degree was the speaker effective and convincing in their presentation?	10		
Overall General Effect/Presence – General effect includes the extent to which the speech was interesting, understandable, convincing, pleasing, and held audience’s attention.	10		
Score: (On Delivery)	70		

General Commendations or Recommendations:

JUDGE'S SCORE SHEET IMPROMPTU PUBLIC SPEAKING CONTEST

	Students' Names								
PART I: For Scoring Content									
Did the student clearly and effectively discuss, analyze and evaluate the selected topic?	10								
To what degree did the student address all parts of the question or quote?	10								
Did the student present an organized, logical speech?	10								
Score (on Content)	30								
PART II: For Scoring Delivery of the Production									
To what degree did the speaker use effective oral presentation skills (volume, diction, speed of delivery)?	10								
Was the speaker poised, sincere and comfortable in delivery?	10								
Did the speaker use effective body language (gestures, facial expression, eye contact)?	10								
To what degree did the speech exemplify professional standards of language usage and vocabulary?	10								
Did the speaker avoid slang, poor grammar, and mispronunciations?	10								
To what degree was the speaker effective and convincing in their presentation?	10								
Overall General Effect/Presence – General effect includes the extent to which the speech was interesting, understandable, convincing, pleasing, and held audience's attention.	10								
Score: (On Delivery)	70								
TOTAL POINTS: (GROSS)	100								
*LESS TIME DEDUCTIONS: Max 20 points	Points								
TOTAL SCORE: (NET)									
RANKING:									

* Overtime deduction based on timekeeper's record: each minute or major fraction there of – 20 points.

* Under time deduction based on timekeeper's record: each minute or major fraction there of – 20 points.

JOB INTERVIEW

Revised 6/2022

Purpose and Standards

The Job Interview Career Development Event seeks to effectively prepare the students for the expectations of interviewing for available positions within the Agricultural Industry. Students seeking careers within the Agricultural Industry must not only develop a high degree of knowledge and skill; they must also develop the ability to interview through communication in both written and oral forms; and be able to complete a resume, cover letter and job application accurately. California Career Technical Education Model Curriculum Standards addressed by this event include:

Foundation Standards: Communications – Reading 2.1, 2.6, 2.7, Writing 1.1, 1.2, 2.3f, 2.5, Written and Oral English Language Conventions 1.2, 1.2, 1.2, and Listening and Speaking 1.1, 1.7, 1.2, 2.3, 1.8. Career Planning and Management 3.1, 3.2, 3.3, 3.4, 3.5, 3.6. Technology 4.2, 4.6. Problem Solving and Critical Thinking 5.1, 5.3. Health and Safety 6.1, 6.2, 6.4, 6.5. Responsibility and Flexibility 7.1, 7.2, 7.3, 7.4, 7.5, 7.6. Ethics and Legal Responsibilities 8.2, 8.3. Leadership and Teamwork 9.1, 9.2, 9.3, 9.4, 9.5, 9.6. Technical Knowledge and Skills 10.2. Demonstration and Application – Students will demonstrate and apply the concepts contained in the foundation and pathway standards.

Contestants (Eligibility)

- Contestants must be active, in-school, FFA members of a chapter in good standing with the California Association of FFA and who are enrolled in an agricultural education course.
- The preliminary contests are local, sectional and regional in nature.
 - Each section will determine how many chapter members may participate at the sectional level. Each region will determine how many sectional participants may compete at the regional level. Participation at the state level is limited to the top 50% of those that participate in the regional contest (or major portion thereof), with a maximum of four (4) per region.
 - The finals for this contest will be held the same time as the state prepared public speaking and state extemporaneous public speaking contests are conducted.
 - A contestant may not participate in the Job Interview, Prepared Public Speaking or Extemporaneous Public Speaking contests in the same year.

Tie Breaker

In case of a tie, that individual who has the highest grand total score shall have prior rating.

Rules

- I. Contestants must be in the official FFA dress uniform.
- II. JUDGES:
 - A. Three competent and impartial persons shall be selected to judge the contest. At least one judge should have previous experience in interviewing job applicants.
 - B. All judges will equally rate the job interview contestants.
 - C. The judges at the state finals are to be from industry, preferably representing three different agricultural career areas.
- III. SELECTING WINNERS:
 - A. Rules of the contest should be placed in the hands of the judges at least one week prior to the time of the contest.

- B. Judges will make a joint report on the final placing. The official job interview score card must be used by all judges.
 - C. In the regional and state contests, judges will rank contestants in the top six places.
- IV. CONTEST PROCEDURES:
- A. Letters of Introduction and resumes must be sent to the chairman of the state and regional contests 14 days prior to the activity.
 - B. Contestants shall apply for jobs or positions in one of following areas:
 - 1. Agricultural Business Management,
 - 2. Agricultural Mechanics,
 - 3. Animal Science,
 - 4. Forestry & Natural Resources,
 - 5. Ornamental Horticulture,
 - 6. Plant & Soil Science
 - 7. Floral.
 - C. Only one job title will be assigned to each area. The contestant must research the job title for the area selected. The state contest coordinator will develop the list of job titles and descriptions and post on www.calaged.org by October 1st of each year.
 - D. Letters of Introduction should not exceed one page. It is suggested that the date of the letter of application be the date of the region/state contest.
 - E. Sample interview questions will be made available to schools by the State Contest Coordinator.
 - F. Students will draw for interview order in their assigned room.
 - G. There will be three judges. They will all rate the contestant's letter of introduction and resume and conduct the actual interview.
 - H. When all contestants have finished speaking, each judge will total his/her scores.
 - I. Contestants shall be ranked in numerical order on basis of final score to be determined by each judge without consultation with each other.
 - J. The judges' ranking on each contestant then shall be added by the Regional Supervisor in charge of the contest, and the winner shall be the contestant whose total of rankings is the lowest. Other placings shall be determined in the same manner (low points score method of selection).
 - K. No materials may be taken into the interview room by the students.
- V. RATINGS BY JUDGES:
- A. Letter of Introduction - 25 points - neatness, organization and content.
 - B. Resume - 25 points - neatness, organization and content.
 - C. Knowledge of Position - 10 points - conveys knowledge of career area and/or evidence of researching job skills. Use of career terminology and understanding of job procedures.
 - D. Presentation - 20 points - communicative ability, sincere, direct, force, attitude, poise, confidence, pronunciation, articulation, voice quality, ease before an audience, maturity, and honesty.
 - E. Response to questions - 30 points - organized response, logical development of thought, complete, original, uses critical thinking skills, can think quickly, convincing, and easily understood.
 - F. Total possible points - 100 points
- VI. TIME:
- A. Interview - approximately 10 minutes.
- VII. The final ranking sheet included with the rules shall be used to summarize judges score sheets.

JUDGE'S SCORE SHEET JOB INTERVIEW CONTEST		Contestants											
		1	2	3	4	5	6	7	8	9	10	11	12
Name of Judge													
	Points Allowed	Points Awarded to Contestants											
LETTER OF INTRODUCTION	25												
RESUME	25												
KNOWLEDGE OF POSITION	10												
PRESENTATION	20												
RESPONSE TO QUESTIONS	20												
TOTAL POINTS	100												
RANK OF CONTESTANT													

Job Interview Contest Rubric – Score according to the column that best fits performance.

	Points Allowed	Excellent	Good	Fair	Poor
Letter of Introduction	25	19-25 Points <ul style="list-style-type: none"> No Spelling or Grammatical Errors Well Stated Unique, Descriptive Letter Visually Appealing Follows Business Format 	13-18 Points <ul style="list-style-type: none"> 1-2 Spelling or Grammatical Errors Well Stated Descriptive Letter Visually Appealing Follows Business Format 	7-12 Points <ul style="list-style-type: none"> 3-4 Spelling or Grammatical Errors Vaguely Stated Generic Letter Does Not Follow Business Format 	1-6 Points <ul style="list-style-type: none"> More than 4 Spelling or Grammatical Errors Poorly Stated Information Not Applicable to Position Does Not Follow Business Format
Resume	25	19-25 Points <ul style="list-style-type: none"> No Spelling or Grammatical Errors Visually Appealing Logically Organized Contains Relevant, Descriptive Information Follows Business Format 	13-18 Points <ul style="list-style-type: none"> 1-2 Spelling or Grammatical Errors Visually Appealing Organized Contains Relevant Information Follows Business Format 	7-12 Points <ul style="list-style-type: none"> 3-4 Spelling or Grammatical Errors Lacks Visual Appeal Lacks Organization Lacks Some Relevant Information Does Not Follow Business Format 	1-6 Points <ul style="list-style-type: none"> More than 4 Spelling or Grammatical Errors Lacks Visual Appeal Disorganized Irrelevant Information Does Not Follow Business Format
Knowledge of Position	10	9-10 Points <ul style="list-style-type: none"> Understands all Aspects of the Position Uses Correct Terminology Relevant to the Position Relates Skills to the Position 	7-8 Points <ul style="list-style-type: none"> Understands Most Aspects of the Position Uses Correct Terminology Relates Most Skills to the Position 	5-6 Points <ul style="list-style-type: none"> Understands Some Aspects of the Position Uses Some Incorrect and/or Lacks Terminology Relates Some Skills to the Position 	1-4 Points <ul style="list-style-type: none"> Does Not Understand Aspects of the Position Uses No Terminology Relevant to the Position Relates No Skills to the Position
Presentation	20	18-20 Points <ul style="list-style-type: none"> Sincere Communication Articulates Thoughts Thoroughly Strong, Direct Voice Professional Poise Displays Confidence Positive Attitude Speaks at a Comfortable Pace Well Groomed Professional Appearance 	15-17 Points <ul style="list-style-type: none"> 1-2 Qualities Missing or Not Strongly Exhibited 	12-14 Points <ul style="list-style-type: none"> 3-4 Qualities Missing or Not Strongly Exhibited 	0-11 Points <ul style="list-style-type: none"> More than 4 Qualities Missing or Not Strongly Exhibited
Response to Questions	20	16-20 Points <ul style="list-style-type: none"> All Responses are Well Stated Answers All Questions Thoroughly Exhibits Thought and Logic Responses Relevant to the Position 	11-15 Points <ul style="list-style-type: none"> Most Responses are Well Stated Answers Most Questions Thoroughly Exhibits Thought and Logic Responses are Mostly Relevant to the Position 	6-10 Points <ul style="list-style-type: none"> Some Responses are Well Stated Answers Some Questions Thoroughly Exhibits Some Thought and Logic Responses are Somewhat Relevant to the Position 	1-5 Points <ul style="list-style-type: none"> Few Responses are Well Stated Answers Very Few Questions Thoroughly Exhibits Somewhat Rehearsed Responses to Questions Exhibits Very Little Thought and Logic Responses are Irrelevant to the Position

LIGHT HORSE JUDGING

Revised 6/2023

Purpose and Standards

The purpose of the Light Horse Judging Career Development Event (CDE) is to provide students with new insights into equine science by evaluating and ranking horses based on breed characteristics, confirmation and performance.

Participants will make accurate observations of equine, assess desirable traits of horses, make logical placing decisions based on these observations, and defend their decision making process. Participants defend their decisions via oral reasons in front of industry experts.

Participant of the Light Horse Judging CDE strengthen their leadership, observation, analysis, critical thinking and communication skills while also developing and exercising a competitive team spirit and building an awareness of career opportunities within the equine industry.

Foundation Standards: 2.0, 2.4, 5.0, 5.1, 5.2, 5.3, 9.0, 9.1, 9.2, 9.5, and 11.1

Agricultural Pathway Standards: D 5.1, 5.2, 5.3, and D10

Contestants

Teams consist of four members, with all four individual scores counting as the team score. All team members are eligible for individual awards.

Classes

Class	Individual Points	Team Points
Class 1	50	200
Class 2	50	200
Class 3	50	200
Class 4	50	200
Class 5	50	200
Class 6	50	200
Class 7	50	200
Class 8	50	200
Halter Reasons Class 1	50	200
Halter Reasons Class 2	50	200
Performance Reasons Class 1	50	200
Performance Reasons Class 2	50	200
TOTAL	600	2400

Tiebreaker

In the event of a tie, the team or individual scoring the highest total score on four sets of reasons will be the winner.

Sub-contest Awards

Sub-contest awards will be given for high teams and individuals in the following areas: Halter, Performance, and Reasons. (Halter and Performance include reasons for respective classes. Reasons sub-contest includes all reason scores.)

Event Rules

- I. No pre-printed materials will be allowed during the event unless supplied by the host school.
- II. Any participant in possession of an electronic device in the event area is subject to disqualification.
- III. Inappropriate behavior by contestants or coaches will result in the immediate disqualification of the team for that contest.
- IV. Coaches will be permitted to watch the contest in a designated area.
- V. Release the name of the classes being judged by 6:00 p.m. the night prior to all coaches/teams registered.

Judging Rules

- I. Judging
 - A. There will be eight classes judged with a minimum of two classes in halter and two in performance not to exceed six in each area.
 1. Halter Classes (200-400 points)
 - a) All contestants will be allowed 12 minutes for the placing of each halter class. Two minutes will be allowed for each set of reasons.
 - b) These two to six classes of horses will be judged on conformation. The classes shall consist of:
 - (1) Four individuals of any of the following breeds: American Paint Horse, American Quarter Horse, American Saddlebred, Appaloosa, Arabian, Morgan, or Conformation Hunter.
 - (2) Four individuals of any one sex; Stallions, Colts, Mares, Fillies or Geldings:
 - (3) Each class will be scored 0-50 points.
 - c) Two sets of reasons will be given on halter classes. These sets will be scored 0-50 points. Contest advisors should be advised of Curricular Code Introduction section on oral reasons, which reads; students giving oral reasons may take notes while judging the classes. (See attached reason's score sheet.) A contestant has the option not to give reasons to alumni from their school. A contest official will reassign the contestant to another group for that set of reasons.
 - d) Horses will be judged standing.
 - e) All halter horses to be judged as sound.
 - f) No close inspection
 2. Performance Horses (200 - 400 points)
 - a) All performance classes will be judged according to AQHA rules.
 - b) Patterns will only be established by the Official Handbook of the American Quarter Horse Association.

- c) Two to six classes of horses will be judged as performance horses. The time allowed for judging these classes will be set by the contest management. Each class will be scored 0-50 points.
- d) Each class shall consist of four individual horses.
- e) Performance classes shall consist of any two of the following:
 - (1) Western Pleasure
 - (2) Western Riding
 - (3) Trail
 - (4) Reining
 - (5) Hunter Under Saddle
 - (6) Hunter Hack
 - (7) Western Horsemanship
 - (8) Ranch Riding
- f) Two set of reasons will be given on performance classes. Reasons will be scored 0-50 points. (See attached score sheet.) A contestant has the option not to give reasons to alumni from their school. A contest official will reassign the contestant to another group for that set of reasons.
- g) Official placing and contest judging will be done simultaneously for all performance classes.
- h) Performance classes will be evaluated as presented (unsoundness to be penalized accordingly). Patterns will be provided to team prior to the start of the event for all classes requiring patterns.
- i) All attire of riders and handlers and all tack is to be considered legal in performance classes.

REASON'S SCORE SHEET

	Score
What to do when a contestant.....does not show. Write DOES NOT SHOW on Card	0
Says "I don't have anything to say."	0
Reads notes with poor organization and terms	5-9
Reads notes, fairly complete set	10-14
Reads notes, excellent set	15-20
Glances at notes one or more times	20-24
No notes, poor terminology and organization	25-34
No notes, proper terms, but brief or not accurate	35-39
No notes, good terms, fair organization and accurate presentation	40-44
No notes, excellent terms, organized, accurate and well presented	45-50

Time Penalties: (two minutes allowed)

Time	Penalty
2:01-2:10	- 1
2:11-2:20	- 3
2:21-2:30	- 6
2:30 or more	-10

LIVESTOCK JUDGING

Revised 6/2023

Purpose and Standards

- To understand and to interpret the value of performance data based on industry standards.
- To measure the students' knowledge in the following categories:
 - to make accurate observations of livestock
 - to determine the desirable traits in animals
 - to make logical decisions based on these observations
 - to discuss and to defend their decisions for their placing
 - to instill an appreciation for desirable selection, management and marketing techniques
- To develop the ability to select and market livestock that will satisfy consumer demands and provide increased economic returns to producers. Provide positive economic returns to producers as well as meet the needs of the industry.
- To become proficient in communicating in the terminology of the industry and the consumer.
- To provide an opportunity for participants to become acquainted

Foundation Standards: 2.4, 2.7, 5.0, 5.1, 5.2, 5.3, 9.0, 9.1

Agricultural Pathway Standards: D 5.1, D10

Contestants

Teams consist of four members, with all four individual scores counting as the team score. All team members are eligible for individual awards.

Classes

Class	Individual Points	Team Points
Beef 1	50	200
Beef 2	50	200
Beef 3	50	200
Sheep 1	50	200
Sheep 2	50	200
Sheep 3	50	200
Meat Goats 1	50	200
Swine 1	50	200
Swine 2	50	200
Swine 3	50	200
Keep/Cull	50	200
Beef or Beef Performance Reasons	50	200
Sheep Reasons	50	200
Swine or Swine Performance Reasons	50	200
Goat Reasons	50	200
TOTAL	750	3000

Tie Breaker

1. The team or individual scoring the highest total reason score(s) will be the winner.
2. If a tie still exists, the total score of the individual or team will be used to determine the high individual or team.

Sub-contest Awards

Sub-contest awards will be given for high teams and individuals in the following areas: Beef, Goats, Sheep, Swine, and Reasons. (Beef, Goats, Sheep and Swine include Keep/Cull, and Reasons if applicable to that species. Reasons sub contest **includes** all reason scores.)

Rules

- I. All contestants shall be allowed 12 minutes for placing each class. Two minutes will be allowed for each set of reasons.
- II. There will be ten (10) classes judged consisting of three classes each of the following: beef cattle, sheep and swine. The tenth class judged will be meat goats, either breeding or market animals.
- III. One judging class will be based on EPD performance data. Each year the class will be rotated from beef to swine. The following data will be used for the EPD class:
 - A. Swine: EPD's or live animal data (derived from the Stages program) representing litter size, backfat, line eye area, and days to 250#. A management statement will include only the intent of progeny and what females will be mated with.
 - B. Cattle: birth date, EPD's, and accuracy percentages for Birth Weight (BW), Calving Ease (CE), Weaning Weight (WW), Yearling Weight (YW) Milk (MILK), Total Maternal (TM), Scrotal Circumference (SC), Fat Thickness (FT), Rib Eye Area (REA), and Marbling (MARB).
 - C. A management statement will include only the intent of progeny and what bulls or females will be mated with.
- IV. In addition, there will be one keep/cull class made up of eight (8) animals. The contest organizer will designate the species to be used. The top four animals used in the keep and cull class will total 50 points. Any of the remaining animals may receive points.
- V. Oral reasons will be given on four of the ten classes of livestock, one in each species with one being either swine or beef performance. The four classes of livestock on which oral reasons will be given will not be announced until after the contestants receive their contest numbers. One of the four reasons classes will be based on the performance data class. A minimum of three different judges will listen to and score reasons for each class on which reasons are given.
- VI. All contestants will be graded as follows:
 - A. Correct placings will be fifty points each.
 - B. Reasons will be on a basis of 50 points per presentation.
 - C. Keep/Cull will have a maximum point value of 50 points each.
- VII. The host university and contest coordinator will release the following information through an email by 6 p.m. the Friday before State Finals:
 - A. Names and types of classes to be judged, including reasons classes. * Subject to change.
 - B. Special instructions (i.e. injured animals, judging site conditions, last minute changes, requests for special needs, etc.)
- VIII. The first team in the State Championship contest is eligible to represent the State of California at the National FFA Competition, or at any other contest accepted as a substitute by the CATA, and the second team is eligible to represent the State of California at the Denver Stock Show FFA Judging Contest in Denver, Colorado or at any other contest accepted as a substitute by CATA. In any case, the first team is barred from further competition within the state in livestock contests. If the second or third team(s) represent the State in out-of-state competition, they are not eligible

for further competition. No team placing lower than third will be permitted to represent the State at the National FFA Contest.

- IX. The contestants will use the JudgingCard #476-4 scan sheet, for all livestock judging classes, including reasons.
- X. The contest will be administered, planned, organized and facilitated by a committee of California college and university livestock educators and professionals selected by the current State FFA Advisor at his discretion.

MARKETING

Revised 12/2023

The contest is sponsored by the Agricultural Council of California.

Purpose and Standards

The Marketing event seeks to effectively prepare the students with the practices and operations of Agricultural Cooperatives. Workers seeking careers in cooperative marketing must not only develop a high degree of knowledge and skill they must also develop the ability to solve difficult problems. This event blends the testing of manipulative skills and knowledge required for careers in operations and marketing. California Career Technical Education Model Curriculum Standards addressed by this event include:

Foundation Standards: Mathematics Algebra, 10,12,15, Social Science 12.2, 12.2.2, 12.2.3, 12.2.5, 12.2.6, Reading 2.1, Responsibility and Flexibility 7.0 (7.1- 7.6), Ethics and Legal Responsibilities 8.0 (8.1-8.4), Leadership and Teamwork 9.0 (9.1-9.6).

Agricultural Business Pathway Standards: A1.1, A1.2, A1.3, A1.4, A2.2, A2.3, A4.1, A6.1, A6.2, A7.1, A7.2

Contestants

- Teams shall consist of three to five members. The scores of the three highest team members shall be used for the team score. All team members are eligible for individual awards.
- To be eligible for the State Contest, a chapter must have participated in a Sectional Marketing Contest during the current school year. All teams participating at the sectional contest are eligible to compete at the state contest. Each Sectional contest host school will submit a list of chapters and individuals participating at the sectional contest to state staff.

Classes

Class	Individual Points	Team Points
Written Test	100	300

Tie Breaker

1. Tie scores for individuals and teams will be resolved using the math problems.
2. If a tie still exists the true/false questions will be used.
3. Finally, if a tie still exists the multiple choice questions will be used.

Rules

- I. The contest consists of two written examinations with a combined score of 100 points, based on the booklet *Exploring Farmer Cooperatives* provided by the Agricultural Council of California, *Co-Ops 101 An Introduction to Cooperatives* (Cooperative Information Report 55), and *Cooperatives in Agribusiness* (Cooperative Information Report 5).
 - A. No other source of information is considered valid for responses to the contest test questions with the exception of problems requiring mathematical solutions. Such questions are based on principles described in the official texts and on generally accepted mathematical techniques.
- II. Contest emphasis is on the subjects of farm product marketing in general, and farmer cooperation in particular, as described in the *Exploring Farmer Cooperatives* booklet, *Co-Ops 101 An*

Introduction to Cooperatives (Cooperative Information Report 55), and *Cooperatives in Agribusiness* (Cooperative Information Report 5).

A general knowledge of the following is required:

- A. The importance of the subject of marketing to farmers and students.
 - B. The elements of successful marketing.
 - C. The principles of cooperation as they apply to marketing, bargaining, purchasing and service associations.
 - D. The farmer's choices in means of marketing his products.
 - E. Practical aspects of organizing, operating and managing a farmer cooperative.
 - F. Terms commonly used in marketing and cooperatives.
 - G. Basic mathematical techniques for computing averages, percentages, etc. These figures should be rounded off to the nearest one- hundredths (eg. 162.67 people or \$324.16).
 - H. Miscellaneous data on California agriculture, agri-careers and cooperative history.
- III. A chapter may bring up to 15 individuals to a sectional contest. All participants will be eligible for individual awards. The three highest scoring individuals from a chapter will comprise a team.
 - IV. There is a minimum of two teams required to hold a valid sectional contest.
 - V. To be eligible for the state contest a team must have participated in a valid sectional marketing contest during the current school year. All teams participating at the sectional contest are eligible to compete at the state contest.
 - VI. In the event a local chapter is the only chapter within a section wishing to participate in the competition and qualify for state finals, that chapter team shall be allowed to participate in a valid sectional contest in another section. The section in which that chapter shall participate shall be determined by the Regional Supervisor of Agricultural Education prior to the section contest.
 - VII. The Agricultural Council of California provides monetary awards for the top three high individuals, the amounts awarded will be determined each spring by the Ag Council.

MARKETING PLAN

Revised 6/2022

Purpose and Standards

The Marketing Plan Career Development Event seeks to effectively prepare students for the opportunities and expectations of the agricultural business workplace. Students seeking careers in the agricultural business industry must develop a high degree of knowledge and skill as well as the capacity to create and present a marketing plan. This competition should help to develop partnerships and improve relations with local agricultural industries, FFA chapters and the general public.

Foundation Standards: Mathematics 8.0, History – Social Science 12.2, 12.2.2, 12.2.10, Communications 2.0, Reading 2.3, Writing 1.3, Listening and Speaking 2.4, Problem Solving and Critical Thinking 5.0, Leadership and Teamwork 9.0

Agricultural Business Pathway Standards: A2.3, A7.1 - A7.6, A8.1 – A8.3

Contestants

Teams shall consist of three members. Alternates are not allowed in this competition.

Classes

Marketing Plan is a team competition with no individual scoring

Class	Team Points
Written Plan	100
Presentation	200
TOTAL	300

Tiebreaker

Ties will be broken based on the greatest number of low ranks. Team low ranks will be counted, and the team with the greatest number of low ranks will be declared the winner. If a tie still exists, then the rank of the teams' written plan scores will be used. If a tie still exists, the team with the lowest rank from the response to questions will be declared the winner.

Sub-contest Awards

Sub-contest awards will be given to high teams in the following areas: Written Plan, and Presentation.

Requirements of the Host School

See equipment to be provided at the event site below.

Rules

- I. Description
 - i) Marketing plan is designed to help students with developing practical skills in the marketing process through the development and presentation of a marketing plan. Students research and present a marketing plan for an agricultural product, supply, or service. It is intended as a competitive activity involving a team of three persons working for an agri-business, which serves the local community-thus supporting the FFA's outreach mission.
 - ii) Local chapters may involve the entire chapter, a specific agriculture class, or a three-person team. The intent is to have a three-person team present the results of primary research

involving the local community in providing a reasoned and logical solution to a marketing problem. Understanding of the marketing process is manifested in the marketing plan, which is presented in a five to eight page document and a live presentation before qualified judges. Judges should have sufficient understanding of the marketing planning process. Though only three individuals are on a team, any number of students may assist with the primary and secondary research.

II. Written Plan - (100 points)

- A. Select an agricultural business that serves the community and decide on the product, or service for the marketing plan. Work with either existing or start-up situations. Plan to work with an off campus organization. Do not use your chapter as a client.
- B. Emphasis should be placed on the "value added" concept using marketing techniques to increase the value of products or services.
- C. A marketing plan deals with the future. Historical information is very valuable, but the actual plan must be a projection. A plan presented in 2007 should be for the year 2008. A two-year timeframe might be needed, which would mean the inclusion of the year 2009. Market plans may vary from one to ten years depending on your client and the type of product or service.
- D. Brief description of product or service (product/service attributes – size, quality, etc.). (5 points)
- E. The project outline should include the following aspects of the marketing process.
 1. Analysis of market – “Where are we now?” “Why were we hired?” (30 points)
 - a. Industry trends
 - b. Buyer profile and behavior
 - c. Competition’s strengths and weakness
 - d. Your product’s/firm’s strengths and weakness.
 - e. Original research results.
- F. Business Proposition – “Where do we want to be?” (20 points)
 1. Key planning assumptions (cite sources of information)
 2. Measurable and Attainable Goals - must be measurable, have completion date, be specific, and be attainable.
 3. Target Market – identify specific market segments, which achieve your goals
- G. Strategies and Action Plan – How and when will we get there? (25 points)
 1. Product attributes: size, quality, service, etc.
 2. How will you distribute and sell?
 - a. marketing channels
 - b. physical distribution modes
 3. What will be the price structure?
 4. How will you promote the products? Which promotional activity or combinations of activities are appropriate for your product or service? How much promotion can you afford?
 - a. personal selling
 - b. direct sales promotion
 - c. public relations
 - d. advertising – mass media
 5. Develop a mission statement and predict competitor reactions, if any.
- H. Projected budget – “How much will it cost to get there?” (10 points)
 1. What will be strategies cost?

2. Pro forma income statement which highlights cost of the strategies on an incremental or start-up basis
 3. Calculate the financial return of the marketing plan
 - I. Evaluation – “Did we get there?” (5 points)
 1. Specific measurement tools to measure the accomplishments of the goals at the end of the time period
 2. Recommendations for future action and contingencies
 - J. Technical and business writing skills (10 points)
- III. Written Plan Procedures
- A. One electronic PDF copy of the marketing plan must be emailed to the contest site by the Friday, one week prior to the State Finals.
 - B. Ten points will be deducted the first day that the document is late and two points per day for each additional day late.
 - C. The document will not exceed eight pages (single sided) and must be ten point font or larger:
 1. Title page – project title, team name, chapter name, state, and date (1 page)
 2. Text and Appendices – Marketing plan, surveys, graphs, maps, promotional pieces, etc. (7 pages)
 - D. Total eight pages
 - E. The eight pages are calculated on an 8 ½” X 11” basis. Different formats and page sizes can be used as long as the document does not exceed the equivalent of 8 – 8 ½” X 11” pages.
 - F. Written expression is important. Attention should be given to language, general appearance, structure, and format.
- IV. Scoring the Written Plan
- A. The maximum score on the written plan is 100 points. Five areas are considered in scoring the written plan, as follows:

Product/Service Description	5 points
Market Analysis	30 points
Business Proposal	20 points
Strategies and Action Plan	25 points
Budget	10 points
Evaluation	5 points
Technical and Business Writing Skills	5 points
Total Points Possible	100 points

- V. Live Presentation (200 points)
- A. Each team will be allowed 5 minutes to set up. Deductions will be made for teams that exceed the 5 minute time limit. There will a loss of five (5) points for every minute over the 5 minutes allowed, beginning at 5:01. A live presentation not exceeding 15 minutes duration should be planned and given. The timekeeper shall be responsible for keeping an accurate record of time. Five points will be deducted from the final score for each minute or major fraction thereof, over 15 minutes for the presentation. The presentation will be followed by 10 minutes maximum of both clarifying and general marketing questions. Each team will be given three minutes to reset the equipment as they found it after the presentation.

- B. The focus of the presentation should be to the top management of an agribusiness or farm. The team should assume the role of a marketing consultant, as found in industry. The team will inform the judges of their role in the team's presentation.
- C. Visual aids are limited to presentation only. No additional props are allowed.
- D. Before the presentation, teams are allowed to hand judges one single sided, 8.5"x11" page with changes/corrections to the written plan. No other handouts or samples are allowed.
- E. The following equipment will be provided at the event site:
 - 1. Two tripod easel (24"x 36")
 - 2. One screen
 - 3. One podium
 - 4. Table and three chairs
- F. If there is an equipment failure during the presentation, the team will be allowed five minutes to set up again.

VI. Scoring the Presentation

- A. The maximum score on the presentation is 200 points. Scoring is as follows:

Brief Description/Client Status	5 points
Market Analysis	10 points
Primary Research	35 points
Business Proposal	15 points
Strategies/Action Plan	30 points
Budget	25 points
Evaluation	10 points
Communication	20 points
Question and Answer	50 points
Total Points Possible	200 points

VII. Time Allowance

- A. The maximum time allowed for the presentation is 15 minutes. The timekeeper shall be responsible for keeping an accurate record of time. Five points are to be deducted from the final score for each minute or fraction thereof that a presentation runs over 15 minutes.

VIII. Event Rules and Format

A. Email Plan

- 1. One electronic PDF copy of the marketing plan must be emailed to the contest site by the Friday, one week prior to the State Finals. Ten points will be deducted the first day that the document is late and two points per day for each additional day late.
- 2. Manuscripts should to be mailed to:
 - Cal Poly Agricultural Education
 - Cal Poly, San Luis Obispo
 - 1 Grand Avenue
 - San Luis Obispo, CA 93407

B. Judges

- 1. Three qualified judges will be used. If more than twelve teams are in an event, two sets of judges should be used for the preliminary rounds and an additional set of judges for the final round. The top two scoring teams from each room will advance to the finals.

2. Judges should be selected to represent a mix of industry, education, and communication, if possible. They should have understanding of the marketing planning process.
 3. At the time of the contest, the judges will be seated in different sections of the room in which the contest is held. They will individually score each team upon the delivery of the plan, using the score sheet provided.
 4. Teams shall be ranked in numerical order on the basis of final score to be determined by each judge without consultation with each other. The judges' ranking on each team shall then be added by the contest superintendent in view of the three judges and the winning team shall be the team whose total ranking is the lowest. Other placings shall be determined in the same manner (low rank score method of selection).
 5. Ties will be broken based on the greatest number of low ranks. Team low ranks will be counted, and the team with the greatest number of low ranks will be declared the winner. If a tie still exists, then the rank of the teams' written plan scores will be used. If a tie still exists, the team with the lowest rank from the response to questions will be declared the winner.
 6. The judges will give a written evaluation after the finals and scoring is completed. The scorecards will be returned to the teams in the awards packet handed out at the awards ceremony.
 7. A timekeeper will be designated and cannot be one of the three judges.
- C. Room Arrangement
1. Each team will be allowed 5 minutes to set up before their 15-minute allowance begins and 3 minutes to reset the equipment as they found it after the presentation. If there is an equipment failure during the presentation, the team will be allowed five minutes to set up again.
 2. Official FFA dress is required.
 3. Only presenting team members will be allowed to set up for the contest. Advisor assistance is not allowed.
 4. Prior to the beginning of the contest, all contestants will be held in a holding room.
 5. Only teams who have presented may remain in the presentation room.
 6. All non-contestants can enter or exit the presentation room to observe between presentations.

60 Day Timeline

Day	Responsibilities
1	Choose Project Off Campus
	Local - Retail
10	Existing Research (Secondary) Completed
	Sources Market Analysis
15	Pretest Survey/Focus Group
	10 Administered
25	50 surveys Completed
	Competitive Interviews
30	All Research Analysis Completed
	Establish Objectives
	1-3 year horizon
	Define target and develop sales forecast
45	Turnkey Strategies Developed for Achieving Objectives
50	Budget Finished
	Incremental/Marginal Analysis
	ROI
55	Develop Presentation Visuals
	Finish Written Outline
56	Practice, Practice, and Practice
60	Present

Indicator	Very strong evidence of skill 5–4 points	Moderate evidence of skill 3–2 points	Weak evidence of skill 1–0 points	Points Earned	Weight	Total Points
Description of product/client status	The plan contains details of the products/services from the customer's point of view and identifies key competitors and how the product/service is positioned to compete.	The plan describes the products/services; however, detail on the features, benefits and competitors is lacking.	Little to no information is provided on the product/service, its features and benefits or its competitors.		x 1	
Market Analysis						
Client's status in current market	Information is thoroughly and clearly reported, including such things as the type of product/service, current marketing efforts, current knowledge about customers and competitors, etc.	Information is, for the most part, thoroughly and clearly reported, but some information that may be critical to the marketing plan is missing.	Information is provided, but there is a great deal of potentially important information missing.		x 1	
Industry trends	Describes how major trends and information helped identify immediate opportunity	Describes major trends that could impact this industry in the near future	Gives a brief history of the industry but does not demonstrate understanding of trends		x 1	
Buyer profile and behavior	Describes in-depth the buyer in the customer profiles buying roles, buying behavior and buyer decision-making process	Briefly describes the buyer in the customer profiles buying roles, buying behavior and buyer decision-making process	The buyer profile section is incomplete.		x 1	
Competition's SWOT analysis	A thorough SWOT analysis is provided, and the reasoning for each item in the SWOT is provided and logical.	SWOT analysis is provided, but there are some missing points. The reasoning for each item is not always thoroughly provided and/or logical.	SWOT analysis is provided, but there are missing points, and there is no reasoning provided for the items.		x 1	
Product's/client's SWOT analysis	A thorough SWOT analysis is provided, and the reasoning for each item in the SWOT is provided and logical.	SWOT analysis is provided, but there are some missing points. The reasoning for each item is not always thoroughly provided and/or logical.	SWOT analysis is provided, but there are missing points, and there is no reasoning provided for the items.		x 1	
Primary Research results (survey, focus groups, interviews)	Excellent plan for collection of data justified with many facts from current business environment	Adequate data collection plan justified with a few facts from business environment	Data collection plan is unorganized and not supported by business environment		x 1	
Business Proposal						
Mission Statement	Useful mission statement that is relevant to the business	Mission statement is not totally relevant to the business.	Irrelevant, not matching business use		x 1	
Key Planning Assumptions	Identifies and validates key assumptions in the strategy	Identifies and validates most of the key assumptions in the strategy	Does not surface the key assumptions or validation for the strategy		x 1	
Short and Long Term Goals	Short-and long-term business goals are attainable and time-bound.	Short-and long-term business goals may not be attainable or are not time-bound.	Goals are missing or are irrelevant to the business.		x 1	
Target Market	Clearly identified by demographics and product/service meets needs/wants of target group	Somewhat identified by demographics and product/service may meet needs/wants of target group	Not identified by demographics and product/service does not meet needs/wants of target group		x 1	
Strategies and Action Plan						
Product	Clearly evident what product/service is being provided	Somewhat evident what product/service is being provided	Unclear what product/service is being provided		x 1	
Price	Includes the pricing structure and explains why/how these prices were determined	Includes the pricing structure but does not explain how the prices were determined	Does not provide complete pricing structure; some products or services are missing; No rationale for the pricing strategy is given.		x 1	
Place	Location is very convenient for target market	Location is accessible for target market	Location is not very convenient for target market		x 1	

Promotion	Promotional material makes target market clearly aware of what the product/service is, what it does and where it is available	Promotional material makes target market somewhat aware of what the product/service is, what it does and where it is available	Promotional material does not make target market aware of what the product/service is, what it does and where it is available		x 1	
Position	Unique selling position (USP) in the market clearly determined	Unique selling position (USP) in the market is somewhat determined	Unique selling position (USP) in the market is not determined		x 1	
Budget						
Budget	Income statement is complete and demonstrates a reasonable return on investment (ROI); all calculations are accurate and accurately categorized.	Income statement is complete and demonstrates a questionable return on investment (ROI); most calculations are accurate and accurately categorized.	Income statement is not complete and demonstrates an unreasonable return on investment (ROI); most calculations are inaccurate and inaccurately categorized.		x 2	
Evaluation						
Evaluation	Evaluates data or criteria in a way that reflects an in-depth understanding of the product/service	Evaluates data or criteria in a way that reflects some basic understanding of the product/service	Has difficulty evaluating important data or criteria, which demonstrates a lack of understanding of the product/service		x 1	
Technical Business Writing						
	The plan contains no more than five spelling or grammatical errors. If any sources have been referenced, proper citations have been used. The plan is formatted according to the handbook.	The plan contains more than five spelling or grammatical errors. Citations, if needed, have been cited correctly. The plan is formatted according to the handbook.	The plan has many spelling or grammatical errors. No citations have been provided. The plan has not been formatted appropriately.		x 1	
Deduction: Written plan received after deadline. Deduct 10 percent of possible plan score or 10 points.						
Deduction: Five points deducted for incorrect written plan format.						
WRITTEN MARKETING PLAN TOTAL POINTS						

Indicator	Very strong evidence of skill 5–4 points	Moderate evidence of skill 3–2 points	Weak evidence of skill 1–0 points	Points Earned	Weight	Total Points
Marketing Process (Understanding and clear presentation of the six parts of the marketing plan)						
Brief description/Client status	Clear and engaging description of a want or unmet need in the market using data to support claims is presented	Somewhat clear description of a want or unmet need in the market is presented	Unclear description of a want or unmet need in the market is presented		x 1	
Marketing analysis •Status in market •Industry trends •Buyer profile •SWOT analysis	Clear and compelling narrative that seamlessly integrates all important market research concepts from the written plan into the presentation	Clear narrative that integrates some market research concepts from the written plan into the presentation	No clear narrative or demonstration of market research concepts from the written plan in the presentation		x 2	
Primary research	Market is clearly explained using primary market research tools to persuasively support that the business in the presentation.	Market is somewhat explained and demonstrates the use of some primary market research tools to support the business in the presentation	Market is not explained and does not demonstrate the use of primary market research tools in the presentation		x 7	
Business proposal •Mission statement •Key planning assumptions •Goals •Target market	Clear and compelling narrative that seamlessly integrates all important business concepts from the written plan into the presentation	Clear narrative that integrates some business concepts from the written plan into the presentation	No clear narrative that demonstrates business concepts from the written plan in the presentation		x 3	
Strategies/action plan •Product •Price •Place •Promotion •Position	Strategies/action plans from the written plan are pervasively included in the presentation	Some of the strategies/action plans from the written plan are included in the presentation	No clear presentation of strategies/action plans are included in the presentation		x 6	
Budget •ROI •Cost of strategies	Clear and compelling narrative that seamlessly integrates all important financial concepts from the written plan into the presentation	Clear narrative that integrates some financial concepts from the written plan into the presentation	No clear narrative or demonstration of financial concepts from the written plan in the presentation		x 5	
Evaluation •Benchmarks •Measuring tools •Alternative strategies	Clear and compelling narrative that seamlessly integrates all the important evaluation information from the written plan in the presentation	A narrative that integrates some evaluation information from the written plan is included in the presentation.	No clear demonstration of evaluation information from the written plan is included in the presentation.		x 2	
Communication	Speaks with confidence, presence, poise and eye contact; excellent use of grammar enhances the entire presentation; All members participated equally.	Some problems with pauses, pacing and/or eye contact and language, includes grammar that is average; Two members took an active role in the presentation.	Reads from notes, rarely looks at audience; has problems with pronunciation and/or very low level of grammar is used; All members did not participate equally.		x 4	
Question and Answer	Knowledge is evident and provides a clear, concise well-thought out answer to the questions	Provides answers that are somewhat unclear and at times does not answer questions.	Seems caught off guard by questions and either does not answer the question or provides a rambling answer		x 10	
					Presentation Total Points	
Deduction: Five points for each minute, or major fraction thereof, presentation went over 15 minutes.						
					Written Plan Total Points	
<i>Sub-total (Written and Presentation)</i>						
					NET TOTAL POINTS	
					TEAM RANKING	

MEAT JUDGING

Revised 6/2022

Purpose and Standards:

The purpose of the Meats contest is to create interest and promote understanding of the meat industry by providing opportunities for recognition through the demonstration of skills and proficiencies in this field. These skills include identification of a variety of meat selections, evaluation of carcasses, and questions concerning meat and its relationship to the health and well-being of individuals.

Foundation Standards: 1.0 Academics, 1.1 Mathematics 10.0, 3.0 Career Planning & Management 3.1, 5.0 Problem Solving 5.1 and 5.3, 6.0 Health and Safety 6.2, 8.0 Ethics & Legal Responsibilities 8.1, 9.0 Leadership & Teamwork 9.2.

Agricultural Pathway Standards: A3.2 Food Science, D12.0 Ag Business D12.1 and D12.2.

Contestants

- Teams consist of four members, with all four individual scores counting as the team score. All team members are eligible for individual awards.
- This contest is open to all California secondary schools having FFA programs where instruction in meat grading and evaluation is a part of the curriculum.

Classes

	Individual Points	Team Points
Carcasses		
Beef	50	200
Pork	50	200
Wholesale Cuts -- Beef or Pork	50	200
Retail Cuts - Two retail classes from beef, pork or lamb (50 pts ea)		
Retail Class 1	50	200
Retail Class 2	50	200
Value based pricing beef placing class	50	200
Keep/Cull Class	50	200
Questions		
One set of questions will be selected from any two judging class for 10 questions.	50	200
Retail Cut Identification – 30 Cuts	180	720
Beef Grading		
Quality	40	160
Yield	40	160
Written Exam	90	360
TOTAL POINTS POSSIBLE	750	3000

Tiebreaker

1. If ties occur, the following events will be used in order to determine award recipients:
 - a. Identification Retail Meat Cuts
 - b. Total Questions About Classes Score
 - c. Total Score Carcass Grading
2. The same tie breaking rules will be applied to the sub contest areas.

Sub-contest Awards

Sub-contest awards will be given for high teams and individuals in the following areas: Total Judging Score = (Carcasses, Wholesale Cuts, Retail Cuts, Value, and Keep/Cull), ID = (Retail Cut Identification), Beef Grading = (Quality and Yield Combined), and Written Test.

Rules

- I. All forms, placing cards, note cards for reasons and questions, etc. will be provided by the contest administration and will use JudgingCard Meats form.
- II. Contestants must come to the contest prepared to work in cold storage rooms for 30 minutes at a time.
- III. Contestants will provide their own clipboards, pencils, hair nets, hard hats, white frocks and warm clothing. Contestants should not bring extra note paper, books, worksheets, training materials or visuals of any kind.
- IV. Contestants will be divided into at least four (4) groups. No two members on the same team will be in the same group.
- V. Group leaders will be provided to lead and move each group from exhibit to exhibit during the contest. It is the duty of the group leaders to enforce the rules of the contest and to keep the exhibits of each class in an orderly arrangement.
- VI. Contestants will not be permitted to:
 - A. touch or handle any exhibit, except for kidney knobs and thoracic vertebrae (fingernail only), in beef yield grading and beef carcass placing classes.
 - B. have hands or other objects on or near the rib eye surface when yield grading beef.
 - C. use any mechanical aid or measuring device.
 - D. talk to other contestants during the contest.
 - E. monopolize any one exhibit for an unreasonable length of time.
 - F. separate themselves from the class on which their group is working.
 - G. in any way willfully obstruct the work of any other contestant.
- VII. Coaches will be given the official placings and answers to questions immediately after the contest is completed. Contestants may then re-enter contest areas to talk classes with their respective coaches.

Selection of Classes

- I. General Considerations
 - A. All exhibits will be presented in their traditional form. Contest officials will determine if and how cuts are to be trimmed.
 - B. An effort will be made to select classes that will hold their characteristics for the duration of the contest.
 - C. Whenever possible, all exhibits within each class will be about the same weight so that exhibit size is not a factor in determining placing.
 - D. All hanging exhibits in a class will be on hooks that are about the same length.
 - E. All common marks of identification will be removed from every exhibit before the start of the contest.

- F. Carcass weights will be posted for each exhibit in both beef yield grading and beef carcass placing classes.
 - G. Contestants may shade the rib eye of beef quality grading and beef carcass placing classes.
 - H. Exceptions to the above or other unusual cooler or exhibit condition will be explained to the contestants prior to beginning the contest.
- II. Carcass Placing Classes
- A. Only beef carcasses will be ribbed.
 - B. Carcass wights will be posted.
- III. Questions Classes

- A. Two of the evaluation classes will be selected for questions. A total of ten questions will be asked covering both classes; typically, there are five questions per class, but it could vary if needed to make the best possible questions.
- B. Questions may be given orally or in written form.
- C. Questions cannot be from the keep/cull and value based classes.
- D. Contestants will be given a questions cards to take notes during the official answer period.
- E. All questions will pertain to official placings.

IV. Keep/Cull Class

- A. Participants will be provided with a scenario based on an industry standard or situation. Participants will be given time to evaluate the meat product and make a selection based on the provided information.
- B. Eight (8) exhibits of any species where selection of four (4) items will be based on the provided scenario for an aggregate score of 50 points. Points awarded will be based on individual items selected.

1. Example: Select the four ribeye steaks to be sold to a high value “white table cloth” restaurant that advertises superior quality.

Correct Selection	*					*	*	*
Exhibit Item	A	B	C	D	E	F	G	H
Points Possible	12	8	5	5	4	18	11	9

* The four correct selections will add up to 50 points. The culled items the lesser value than the fourth place item kept.

V. Value Based Pricing Beef Placing Class – 50 points.

- A. Participants will place a class of beef carcasses based on a paper scenario and information provided, no live exhibits to be used. It will be based upon value (per hundred weight) derived from the pricing structure provided on the pricing sheet. The prices will reflect current market values. Pricing sheet will be provided to each participant.
- B. Carcasses exhibiting dairy type are ineligible for Yield Grade 1 or 2 premiums. Carcasses classified as Hardbone will exhibit C, D or E skeletal maturity and should be yield graded only. Carcasses with blood splash or Dark Cutter are ineligible for quality grading and should be yield graded only. A bruise is classified as an area located on the carcass where excess trimming has been performed and a major portion of the major muscle groups in the chuck, rib, loin or round has been removed.
- C. A Sample Beef Carcass Pricing Sheet [Training Aid]: Values in parentheses are discounts and should be subtracted from the Carcass Base Price, which is established based on the exhibits

USDA Quality and Yield Grade. Prices on the Grid Pricing Sheet may change from year to year.

Example Class:

Carcass #1 = Carcass Weight = 758 pounds

Quality Grade = Choice –

Yield Grade = 2.5

Base Value = \$125.00

No Discounts

Carcass Value = \$125.00

Carcass #2 = Carcass Weight = 976 pounds

Quality Grade = Choice +/o

Yield Grade = 3.9

Base Value = \$127.00

Weight Discounts = minus \$4.00

Carcass Value = \$123.00

Carcass #3 = Carcass Weight = 758 pounds

Quality Grade = Choice +/o

Yield Grade = 3.2

Base Value = \$127.00

Dairy Discounts = minus \$5.00

Carcass Value = 122.00

Carcass #4 = Carcass Weight = 843 pounds

Quality Grade = Ineligible due to being a Dark Cutter

Yield Grade = 3.5

Base Value = \$92.00

Bruise on Left Side Loins extending into the Longissimus dorsi muscle = minus \$10.00

Carcass Value = \$82.00

Final Placing = 1 – 2 – 3 - 4

VI. Retail/Wholesale Judging Classes

- A. Only retail cuts from beef, pork or lamb that are traditionally made from the chuck, shoulder, rib, loin, round, and leg regions of the carcass are eligible.
- B. Cuts must be listed on the California FFA wholesale-retail cuts identification code form.
- C. Beef wholesale cuts can only come from chuck, rib, loin, or round. Pork wholesale cuts made from fresh hams or pork loins.

VII. Retail Cuts Identification Classes

- A. Eligible cuts are those listed on the California FFA wholesale-retail cuts identification code form.
- B. Duplicates are not permitted.
- C. Scoring is based on Species-1pt, Primal-1pt, Retail-3pts, and Cookery Methjod-1pt.

VIII. Beef Grading

- A. Carcasses will be ribbed for both quality and yield grading classes.
- B. Exhibits used in the quality grading class will be selected only from the A, B, C, (excluding B70 through C49), D and E maturity ranges. (See Meat Evaluation Handbook)
- C. Carcass weights will be posted for exhibits in the yield grading class.
- D. The beef quality grading score will be 8 points for correct answer (official grade), 6 points for one-third above or below the official grade, 4 points for two-thirds above or below the official grade, the score will be zero one full grade above or below the official grade.

- E. The beef yield grading will be Full points will be earned for 1/10th above or below official yield grade. A two point deduction will be made for 2/10th– 5/10th above or below official yield grade. A four point deduction for 6/10th– 9/10th above or below official yield grade. Zero points will be awarded for answers 1 yield grade above or below the official yield grade. Official United States Department of Agriculture Yield Grades are 1.0 – 5.9.

Example: Official Yield Grade (FYG Official) = 2.2

FYG 2.1- 2.3 = full points (8)

FYG 1.7 – 2.0 or 2.4-2.7 = minus 2 points

FYG 1.3 – 1.6 or 2.8 – 3.1 = minus 4 points

Zero points for any FYG a full yield grade above or below official FYG.

IX. Written Exam

- A. All questions will be based on materials taken from the “Meat Science and Food Safety” DVD available through CEV Multimedia.
1. Legislation in History, Animal Care and Handling, Meat Nutrition, Purchasing Meat.
 2. Meat Storage and Handling, Meat Cookery, Processed Meats & Food Safety.
- B. 30 questions, valued at 3 points each that can be multiple choice or true/false. However, no more than 10 of the 30 questions can be true/false.
1. A minimum of three questions per chapter from “Meat Science and Food Safety” DVD.

Contest Materials and Time

- I. Eight (8) minutes will be allowed for each non-questions, judging class, and keep/cull class.
- II. Twelve (12) minutes will be allowed for value based and questions judging class.
- III. Contestants will be allowed a specified beginning standback time, close inspection period, and a final standback time for filling out placing cards.
- IV. A total of 25 minutes will be allowed for beef quality and yield grading class.
- V. A minimum of 40 minutes will be allowed for the retail identification class. (With the option of splitting into two ID groups of 15 cuts each with a minimum of 20 minutes for each group.)
- VI. A 15 minute study period per set of questions will be allowed preceding the question/answer period. Five (5) minutes will be allowed to answer each set of questions.
- VII. Twenty-five minutes will be allowed for written test and will be given a scantron for a test.

Official Placing Cards and Forms

- I. Standard placing card.
- II. Questions note cards.
- III. Questions answer card.
- IV. Retail identification card.
- V. Species - wholesale - retail cut identification code
- VI. Beef quality grading card.
- VII. Beef yield grading card.
- VIII. Scantrons used will be CATA approved and available on the web for this contest.

Study Materials

- I. National Livestock and Meat Board (manuals, photographs, slides, etc.)
444 North Michigan Ave.
Chicago, IL 60611
312-467-5520
- II. National FFA Organization (Meat Evaluation Handbook)
PO Box 68960
Indianapolis, IN 46268-0960
800-366-6556
- III. CEV Multimedia, Inc. (“Meat Science and Food Safety” judging, grading and identification slides and tapes)
PO Box 65264
Lubbock, TX 79424-5264
800-922-9965
- IV. Nasco West (PYG rulers and rib eye area grids)
1524 Princeton Ave.
Modesto, CA 95352

**MEAT JUDGING CONTEST
QUESTIONS CLASS NOTE CARD**

Name

Class

Placing

___ 1

___ 2

___ 3

___ 4

Retail Cuts Code Sheet with Cookery

Species	Primal	Retail Cut	Cooking Method	Species	Primal	Retail Cut	Cooking Method
B	B	89	M	Beef	Brisket	Corned	Moist
B	B	15	M	Beef	Brisket	Flat Half, Bnls	Moist
B	B	10	M	Beef	Brisket	Whole, Bnls	Moist
B	C	26	M	Beef	Chuck	7-bone Pot-Roast	Moist
B	C	3	M	Beef	Chuck	Arm Pot-Roast	Moist
B	C	4	M	Beef	Chuck	Arm Pot-Roast, Bnls	Moist
B	C	6	M	Beef	Chuck	Blade Roast	Moist
B	C	13	D/M	Beef	Chuck	Eye Roast, Bnls	Dry/Moist
B	C	45	D	Beef	Chuck	Eye Steak, Bnls	Dry
B	C	20	M	Beef	Chuck	Mock Tender Roast	Moist
B	C	48	M	Beef	Chuck	Mock Tender Steak	Moist
B	C	21	D	Beef	Chuck	Petite Tender	Dry
B	C	29	D/M	Beef	Chuck	Shoulder Pot Roast (Bnls)	Dry/Moist
B	C	58	D	Beef	Chuck	Top Blade Steak (Flat Iron)	Dry
B	D	47	D/M	Beef	Flank	Flank Steak	Dry/Moist
B	F	49	D	Beef	Loin	Porterhouse Steak	Dry
B	F	55	D	Beef	Loin	T-bone Steak	Dry
B	F	34	D	Beef	Loin	Tenderloin Roast	Dry
B	F	56	D	Beef	Loin	Tenderloin Steak	Dry
B	F	59	D	Beef	Loin	Top Loin Steak	Dry
B	F	60	D	Beef	Loin	Top Loin Steak, Bnls	Dry
B	F	64	D	Beef	Loin	Top Sirloin Cap Steak, Bnls	Dry
B	F	63	D	Beef	Loin	Top Sirloin Steak, Bnls Cap Off	Dry
B	F	62	D	Beef	Loin	Top Sirloin Steak, Bnls	Dry
B	F	40	D	Beef	Loin	Tri Tip Roast	Dry
B	G	28	M	Beef	Plate	Short Ribs	Moist
B	G	54	D/M	Beef	Plate	Skirt Steak, Bnls	D/M
B	H	22	D	Beef	Rib	Rib Roast	Dry
B	H	13	D	Beef	Rib	Ribeye Roast, Bnls	Dry
B	H	45	D	Beef	Rib	Ribeye Steak, Bnls	Dry
B	H	50	D	Beef	Rib	Ribeye Steak, Lip-On	Dry
B	I	8	D/M	Beef	Round	Bottom Round Roast	Dry/Moist
B	I	9	D/M	Beef	Round	Bottom Round Rump Roast	Dry/Moist
B	I	43	M	Beef	Round	Bottom Round Steak	Moist
B	I	14	D/M	Beef	Round	Eye Round Roast	Dry/Moist
B	I	46	D/M	Beef	Round	Eye Round Steak	Dry/Moist
B	I	51	M	Beef	Round	Round Steak	Moist
B	I	52	M	Beef	Round	Round Steak, Bnls	Moist
B	I	36	D/M	Beef	Round	Tip Roast - Cap Off	Dry/Moist
B	I	57	D	Beef	Round	Tip Steak - Cap Off	Dry
B	I	39	D	Beef	Round	Top Round Roast	Dry
B	I	61	D	Beef	Round	Top Round Steak	Dry
B	N	82	M	Beef	Various	Beef for Stew	Moist
B	N	83	D/M	Beef	Various	Cubed Steak	Dry/Moist
B	N	84	D	Beef	Various	Ground Beef	Dry
P	E	44	D/M	Pork	Ham/Leg	Pork Fresh Ham Center Slice	Dry/Moist
P	E	25	D/M	Pork	Ham/Leg	Pork Fresh Ham Rump Portion	Dry/Moist
P	E	27	D/M	Pork	Ham/Leg	Pork Fresh Ham Shank Portion	Dry/Moist
P	E	91	D	Pork	Ham/Leg	Smoked Ham, Bnls	Dry
P	E	90	D	Pork	Ham/Leg	Smoked Ham, Center Slice	Dry
P	E	96	D	Pork	Ham/Leg	Smoked Ham, Rump Portion	Dry
P	E	97	D	Pork	Ham/Leg	Smoked Ham, Shank Portion	Dry
P	E	35	D	Pork	Ham/Leg	Tip Roast, Bnls	Dry

Species	Primal	Retail Cut	Cooking Method	Species	Primal	Retail Cut	Cooking Method
P	E	38	D	Pork	Ham/Leg	Top Roast, Bnls	Dry
P	F	5	D/M	Pork	Loin	Back Ribs	Dry/Moist
P	F	66	D/M	Pork	Loin	Blade Chops	Dry/Moist
P	F	67	D/M	Pork	Loin	Blade Chops, Bnls	Dry/Moist
P	F	6	D/M	Pork	Loin	Blade Roast	Dry/Moist
P	F	68	D	Pork	Loin	Butterflied Chops Bnls	Dry
P	F	11	D	Pork	Loin	Center Loin Roast	Dry
P	F	12	D	Pork	Loin	Center Rib Roast	Dry
P	F	70	D	Pork	Loin	Loin Chops	Dry
P	F	71	D	Pork	Loin	Rib Chops	Dry
P	F	73	D	Pork	Loin	Sirloin Chops	Dry
P	F	53	D	Pork	Loin	Sirloin Cutlets	Dry
P	F	30	D	Pork	Loin	Sirloin Roast	Dry
P	F	93	D	Pork	Loin	Smoked Pork Loin Chop	Dry
P	F	95	D	Pork	Loin	Smoked Pork Loin Rib Chop	Dry
P	F	34	D	Pork	Loin	Tenderloin, Whole	Dry
P	F	74	D	Pork	Loin	Top Loin Chops	Dry
P	F	75	D	Pork	Loin	Top Loin Chops, Bnls	Dry
P	F	37	D	Pork	Loin	Top Loin Roast, Bnls	Dry
P	J	2	D/M	Pork	Shoulder	Arm Picnic, Whole	Dry/Moist
P	J	3	D/M	Pork	Shoulder	Arm Roast	Dry/Moist
P	J	41	D/M	Pork	Shoulder	Arm Steak	Dry/Moist
P	J	7	D/M	Pork	Shoulder	Blade Boston Roast	Dry/Moist
P	J	42	D/M	Pork	Shoulder	Blade Steak	Dry/Moist
P	J	94	D/M	Pork	Shoulder	Smoked Picnic, Whole	Dry/Moist
P	K	98	D	Pork	Side	Slab Bacon	Dry
P	K	99	D	Pork	Side	Sliced Bacon	Dry
P	K	17	M	Pork	Side/Belly	Fresh Side	Moist
P	L	32	D/M	Pork	Spareribs	Pork Spareribs	Dry/Moist
P	N	69	D/M	Port	Various	Country Style Ribs	Dry/Moist
P	N	85	D	Pork	Various	Ground Pork	Dry
P	N	86	M	Pork	Various	Hock	Moist
P	N	83	D/M	Pork	Various	Pork Cubed Steak	Dry/Moist
P	N	87	D	Pork	Various	Pork Sausage Links	Dry
P	N	87	D	Pork	Various	Sausage	Dry
P	N	92	M	Pork	Various	Smoked Pork Hock	Moist
L	A	24	D/M	Lamb	Breast	Ribs (Denver Style)	Dry/Moist
L	E	1	D	Lamb	Leg	American Style Roast	Dry
L	E	44	D	Lamb	Leg	Center Slice	Dry
L	E	16	D	Lamb	Leg	Frenched Style Roast	Dry
L	E	18	D	Lamb	Leg	Leg Roast, Bnls	Dry
L	E	73	D	Lamb	Leg	Sirloin Chops	Dry
L	E	31	D	Lamb	Leg	Sirloin Half	Dry
L	F	70	D	Lamb	Loin	Loin Chops	Dry
L	F	19	D	Lamb	Loin	Loin Roast	Dry
L	H	71	D	Lamb	Rib	Rib Chops	Dry
L	H	72	D	Lamb	Rib	Rib Chops Frenched	Dry
L	H	22	D	Lamb	Rib	Rib Roast	Dry
L	H	23	D	Lamb	Rib	Rib Roast, Frenched	Dry
L	J	65	D/M	Lamb	Shoulder	Arm Chops	Dry/Moist
L	J	66	D/M	Lamb	Shoulder	Blade Chops	Dry/Moist
L	J	33	D/M	Lamb	Shoulder	Square Cut	Dry/Moist
L	N	88	M	Lamb	Various	Shank	Moist
B	M	76	D/M	Beef	Variety	Heart	Dry/Moist
L	M	76	D/M	Lamb	Variety	Heart	Dry/Moist

Species	Primal	Retail Cut	Cooking Method	Species	Primal	Retail Cut	Cooking Method
P	M	76	D/M	Pork	Variety	Heart	Dry/Moist
B	M	77	D/M	Beef	Variety	Kidney	Dry/Moist
L	M	77	D/M	Lamb	Variety	Kidney	Dry/Moist
P	M	77	D/M	Pork	Variety	Kidney	Dry/Moist
B	M	78	D/M	Beef	Variety	Liver	Dry/Moist
L	M	78	D/M	Lamb	Variety	Liver	Dry/Moist
P	M	78	D/M	Pork	Variety	Liver	Dry/Moist
B	M	79	M	Beef	Variety	Oxtail	Moist
B	M	80	D/M	Beef	Variety	Tongue	Dry/Moist
L	M	80	D/M	Lamb	Variety	Tongue	Dry/Moist
P	M	80	D/M	Pork	Variety	Tongue	Dry/Moist
B	M	81	M	Beef	Variety	Tripe	Moist

MEATS IDENTIFICATION SCORECARD

Name _____ ID Number _____

Chapter _____

Select: Species (1 pt); Primal Cut (1 pts); Retail (3 pts); and Cookery Method (1 pt) from the listing below and fill in the column blanks beside the cut number. The score column is for tabulation only. Total – 180 points.

SPECIES

B Beef

P Pork

L Lamb

ID#	SPECIES	PRIMAL	RETAIL	COOKERY	SCORE
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					

PRIMAL CUTS

A Breast	H Rib or Rack
B Brisket	I Round
C Chuck	J Shoulder
D Flank	K Side (Belly)
E Ham or Leg	L Spareribs
F Loin	M Variety Meats
G Plate	N Various Meats

RETAIL CUTS**Roasts/Pot Roasts**

- 1 American Style
- 2 Arm Picnic
- 3 Arm Roast
- 4 Arm Pot Roast (Bnls)
- 5 Back Ribs
- 6 Blade Roast
- 7 Blade Boston
- 8 Bottom Round Roast (Bnls)
- 9 Bottom Round Rump Roast (Bnls)
- 10 Brisket, Whole (Bnls)
- 11 Center Loin Roast
- 12 Center Rib Roast
- 13 Eye Roast (Bnls)
- 14 Eye Round Roast
- 15 Flat Half (Bnls)
- 16 Frenched Style
- 17 Fresh Side
- 18 Leg Roast (Bnls)
- 19 Loin Roast
- 20 Mock Tender Roast
- 21 Petite Tender
- 22 Rib Roast
- 23 Rib Roast (Frenched)
- 24 Ribs (Denver Style)
- 25 Rump Portion
- 26 Seven (7) Bone Roast
- 27 Shank Portion
- 28 Short Ribs
- 29 Shoulder Roast (Bnls)
- 30 Sirloin Roast
- 31 Sirloin Half
- 32 Spareribs
- 33 Square Cut (Whole)
- 34 Tenderloin (whole)
- 35 Tip Roast (Bnls)
- 36 Tip, Cap Off Roast
- 37 Top Loin Roast (Bnls)
- 38 Top Roast (Bnls)
- 39 Top Round Roast
- 40 Tri-Tip Roast

Steaks

- 41 Arm Steak
- 42 Blade Steak
- 43 Bottom Round Steak
- 44 Center Slice
- 45 Eye Steak (Bnls)
- 46 Eye Round Steak
- 47 Flank Steak
- 48 Mock Tender Steak
- 49 Porterhouse Steak
- 50 Ribeye, Lip-On steak
- 51 Round Steak
- 52 Round Steak (Bnls)
- 53 Sirloin Cutlets
- 54 Skirt Steak (Bnls)
- 55 T-Bone Steak
- 56 Tenderloin Steak
- 57 Tip, Cap Off Steak
- 58 Top Blade (Bnls) Flat Iron Steak
- 59 Top Loin Steak
- 60 Top Loin (Bnls) Steak
- 61 Top Round Steak
- 62 Top Sirloin Steak (Bnls)
- 63 Top Sirloin Ca; Off Steak (Bnls)
- 64 Top Sirloin Cap Steak (Bnls)

Chops

- 65 Arm Chop
- 66 Blade Chop
- 67 Blade Chop (Bnls)
- 68 Butterflied Chop (Bnls)
- 69 Country Style Ribs
- 70 Loin Chop
- 71 Rib Chop
- 72 Rib Chop (Frenched)
- 73 Sirloin Chop
- 74 Top Loin Chop
- 75 Top Loin Chop (Bnls)

Variety Meats

- 76 Heart
- 77 Kidney
- 78 Liver
- 79 Oxtail
- 80 Tongue
- 81 Tripe

Various Meats

- 82 Beef for Stew
- 83 Cubed Steak
- 84 Ground Beef
- 85 Ground Pork
- 86 Hocks
- 87 Sausage Link/Pattie
- 88 Shank

Smoked/Cured

- 89 Brisket, Corned
- 90 Center Slice
- 91 Ham (Bnls)
- 92 Hocks
- 93 Loin Chop
- 94 Picnic (Whole)
- 95 Rib Chop
- 96 Rump Portion
- 97 Shank Portion
- 98 Slab Bacon
- 99 Sliced Bacon

COOKERY METHODS

- | | |
|-----|-------------------|
| D | Dry Heat |
| M | Moist Heat |
| D/M | Dry or Moist Heat |

Example

National FFA Meats Evaluation and Technology CDE
Pricing Sheet

Prices based on the USDA Beef Carcass Price Equivalent Index and the USDA National Carcass Premiums and Discounts

Base Price (\$/cwt.)

	Prime	Choice +/o	Choice -	Select	Standard	Hardbone	Dark Cutter/ Blood Splash
YG 1	\$136	\$130	\$126	\$119	\$110	\$96	\$92
YG 2	\$134	\$128	\$125	\$117	\$108	\$96	\$92
YG 3	\$133	\$127	\$123	\$116	\$107	\$96	\$92
YG 4	\$121	\$115	\$112	\$104	\$95	\$84	\$81
YG 5	\$113	\$108	\$104	\$97	R87	\$77	\$73

Discounts (\$/cwt.)

Carcass Weight	
<500 (\$27)	Dairy Type * (\$5)
500 to 549 (\$16)	Bruise (\$10) per side *
550 to 599 (\$4)	
900 to 949 (\$2)	
950 to 999 (\$4)	
1000 and up (\$19)	

Notes

*Carcasses exhibiting dairy type are ineligible for YG1 and YG2 premiums.

**Maximum discount of \$20 per carcass for bruising.

Revised 6/2024

Purpose and Standards

The purpose of the California FFA Milk Quality and Products Career Development Event is to promote practical learning activities in milk quality and dairy products while assisting students in developing team decision-making skills.

The focus of the California FFA Milk Quality and Products CDE is raw milk quality, dairy products, federal milk marketing orders and attributes of selected milk products. The five general areas that contribute to milk quality and consumer demand are:

- Milk production.
- Milk and dairy product quality and safety.
- Milk processing or manufacturing.
- Raw milk marketing.
- Facility operations:
 - Safety/Sanitation
 - Labor

Fresh raw milk should possess a sweet bland flavor, be free of feed flavors and contain a low number of somatic cells and bacteria. Mixed milk from several cows (herd milk) is expected to contain approximately 3.5 percent milk fat, 3.1 percent protein and 4.8 percent lactose, the main characterizing constituents. Milk is the most important source of calcium in the diet of the average American, supplying approximately 70 percent of the dietary calcium. The production of high-quality raw milk requires the following:

- Clean and healthy cows.
- Equipment that is constructed appropriately from approved materials.
- Proper installation, cleaning, sanitizing and operation of the equipment.
- Rapid cooling of milk in compliance with regulatory requirements.
- Delivery of milk to the processor within 48 hours.
- Prevention of milk adulterants such as water, antibiotics, pesticides, cleaning and sanitizing chemicals, medicinal agents, and any other extraneous materials.
- Application of tests for acceptability of milk.

Students considering a career related to the subject matter in this CDE may wish to consider that persons of the following groups contribute to the successful production of high-quality milk and milk products:

- Dairy farmers and herd managers manage and milk cows and prepare milk for dealers.
- Field representatives of the buying and/or selling organizations provide advice to producers and promote milk quality for buyers.
- Milk sanitarians enforce public health regulations.

CATA Curricular Activities Code

- Food technologists apply chemical, physical, microbiological, and sensory tests to determine the quality and safety of milk and milk products.
- Manufacturers and dealers of dairy equipment supply and service equipment.
- Suppliers of chemicals used in cleaning and sanitizing provide chemicals and advice on proper use.
- Veterinarians treat diseased animals and advise producers on disease prevention.
- Milk plant operators process milk into the finished product for consumers.
- U. S. Food and Drug Administration manages the regulation of grade A milk.
- U. S. Department of Agriculture manages the regulation of manufacturing grade milk and provides grading services to manufacturers of butter, cheese and nonfat dry milk.
- Officials and technicians of the USDA Federal Milk Marketing Orders sample, test and account for milk marketed under federal orders. They also apply regulations to marketing raw milk.
- State departments of agriculture and/or public health manage the public health regulations applied to milk at the state level.
- State dairy extension agents provide advice to dairymen regarding production and sale of milk.
- Accountants and financial advisors with knowledge of the milk industry.
- Dairy food scientists.
- Agricultural economists with a knowledge of milk pricing, exporting and milking procedures of dairy cattle.
- Dairy food nutritionist international marketing specialist with bilingual abilities
- Feed nutritionists.
- Information technologists.
- Milk haulers

Foundation Standards: Academics 1.0; Communications 2.0, 2.1, 2.2, 2.3, 2.5; Career Planning and Management 3.0, 3.1, 3.2; Technology 4.0; Problem Solving and Critical Thinking 5.0, 5.2, 5.3, 5.4; Health and Safety 6.0, 6.2, 6.3; Responsibility and Flexibility 7.0, 7.4; Leadership and Teamwork 9.0, 9.2, 9.6, 9.7, 9.8, 9.9, 9.10, 9.12, 9.13; Technical Knowledge and Skills 10.0, 10.1, 10.2, 10.4; Demonstration and Application 11.0

Pathway Standards: Ag Business Pathway A8.1, A8.3; Agriscience Pathway C1.1, C1.3, C1.4, C1.6, C1.7, C3.1, C3.2, C3.5, C4.1, C4.3, C4.4, C5.1, C5.4, C6.1, C8.1, C8.2C8.3, C9.1, C9.2, C9.3, C9.4, C9.5; Animal Science Pathway D1.0, D2.0, D3.0, D6.0, D9.0, D12.0.

Objectives

This Event Will Provide the Participant With The Ability To Do The Following:

Utilize knowledge of milk quality related to:

- I. Producing quality milk:
 - A. Regulations
 - B. Grades and classes of milk
 - C. Factors necessary to produce quality milk
- II. Cleaning and sanitizing:
 - A. General types of cleaners and sanitizers
 - B. Water hardness

CATA Curricular Activities Code

- C. Milkstone
- D. Approved milking equipment and design
- E. Proper milking procedures
- III. Cooling milk.
- IV. Identifying diseases transmitted to consumers via milk.
- V. Recognizing causes of off flavors in milk.

Utilize knowledge of milk pricing related to:

- I. Marketing and marketing concepts:
 - A. Pricing trends
 - B. Economics
 - C. Supply and demand
- II. Federal milk marketing orders, economics, and distribution:
 - A. Transportation costs
 - B. Cooperatives
 - C. Pricing

Utilize knowledge of the composition and quality characteristics of raw and pasteurized milk and milk products including:

- I. Nonfat solids portion:
 - A. Milkfat
 - B. Adulterants, including water
 - C. Bacterial standards and testing
 - D. Quality testing
- II. Understanding the causes and control of mastitis, its influences on milk quality and cheese yield and the use of mastitis detection methods in controlling the disease, specifically including the following:
 - A. Causes
 - B. Prevention
 - C. Detection (California Mastitis Test and Direct Microscopic Somatic Cell Count)
 - D. Treatment
 - E. Regulatory programs
- III. Identification of cheese varieties and characterize properties
- IV. Identification flavor defects and evaluate milk quality
- V. Understanding the importance of dairy food safety programs
- VI. Identification and comparison of dairy vs. non-dairy products

Scoring

Activity	Points/Sample	Samples	Individual Points	Team Points
Milk Flavor Identification and Evaluation	5 pts for flavor defect / 10 points for intensity range	10 samples	150	600
Cheese Identification	10 pts/sample	10 samples	100	400
Dairy vs Non-Dairy Identification / Fat %	6 pts for product identification / 4 pts for fat %	10 samples	100	400
Written Exam	2 pts / question	50 questions	100	400
Total Possible Individual Points			450	1800
Team Activity				390
Total Points Per Team				2190

Tie Breaker

If ties occur, the following events, in this order, will be used to determine award recipients:

Team

1. Team activity
2. Milk identification total score of all team members
3. Cheese identification score for all team members
4. Dairy vs Non-Dairy score for all team members
5. Written exam score for all team members

Individual

1. Milk identification score
2. Cheese identification score
3. Dairy vs Non-Dairy score
4. Written exam score

Sub-contest Awards

Team and individual awards will be given in the following five areas: Milk Flavor Identification, Cheese Identification, Dairy vs Non-Dairy and Fat percentage, Written Exam, and Team Presentation.

Rules

- I. Teams will consist of four members.
- II. Team ranking is determined by combining the scores of all team participants.
- III. Any participant in possession of an electronic device in the event area is subject to disqualification.
- IV. Prior to the start of the state finals, one coach from each of the top five winning teams from the previous year's state finals will assess/confirm the scoring of the state-qualifying milk classes. Final official scores will be determined by a majority consensus of the top five coaches represented, the State Finals CDE State Staff Arbitrator, and the host facility contest chair.

Event Format

Equipment

- I. Approved materials to be provided by the student:
 - A. Two no. 2 pencils
 - B. Clipboards
 - C. Cover sheet (May not have any contest related information on it)
 - D. Blank scoresheet to document answers
 - E. Bottled water (if desired)
- II. Materials provided by the CDE committee:
 - A. Scorecard
- III. Participants are not to bring these items:
 - A. Glass of any kind to the event.
 - B. Cell phones, calculators or other electronic devices.
 - C. Notes cards, information or other materials related to participation in the contest.

Flow Of Event

- I. Milk Flavor Identification and Evaluation: 20 minutes
- II. Dairy vs Non-Dairy Product Identification: 20 minutes
- III. Cheese Identification: 20 minutes
- IV. Written Exam: 20 minutes
- V. Team Activity: Varies based on activities

Team Activity (390 Points)

Teams will have to analyze test results representing 5 consecutive months. Team members will work together to determine producer milk acceptability based on data from the following tests.

Examples of acceptability tests include the following:

CATA Curricular Activities Code

- Percent TA (acidity)
- DMSCC (Direct Microscopic Somatic Cell Count)
- SPC (Standard Plate Count)
- PIC (Preliminary Incubation Count)
- Antibiotic screening test
- Sample temperature
- Sample freezing point
- Sanitation

Teams will present their test findings, acceptability solution and improvement recommendations to a panel of judges. Order of participation and presentations will be based upon a random lottery draw. The contest host will determine the time of the lottery.

Teams must confirm their participation or non-participation in the team presentation prior to the lottery to assist in creating/confirming the number of time slots. Teams that do not confirm prior to the lottery will be forfeited from the team presentation (“0” score). Teams must be present at their lottery determined start time for the team activity, otherwise they will be forfeited from the team activity (“0” score).

The contest coordinator will designate a time for each team to check in and receive the Team Activity information. Upon receipt of the information by the designated team representative; the 15 minutes preparation time will begin.

Teams will make a 5 minute or less oral presentation (no visual aids) to a panel of two or three judges. Each of the individual judge’s scores will be totaled, added together, and divided by the number of judges to determine each team’s team activity score.

During the team activity, teams can utilize the host-provided dairy data sheet, writing utensils, and clipboards.

Scoring will be based on a scoring rubric (Located in the Resources section).

Judges will be required to have knowledge and understanding of the data, acceptable parameters, and consequences associated with the test data. The judges for the team activity will be approved by the contest coordinator.

Team Activity Scoring (390 Points)

	Points:
Test Indicator (s) Information	300
Organization/Speaking	30
Postures, Gestures, and Eye Contact:	30
Time and all members participating:	30
Total Points:	390

Individual Activities – Milk Flavor Identification and Evaluation (150 Points)

- I. Ten milk samples will be scored on flavor defect (taste and odor) using the computerized scorecard.
- II. Check only the most serious defect in a sample even if more than one flavor is detected
- III. All samples of milk are prepared from pasteurized whole vitamin D milk intended for table use.
- IV. Milk samples will be 60 degrees F.
- V. Only the (tasting) cups provided at the event may be used by contestants.
- VI. Five points awarded for each defect correctly identified. (50 points).
- VII. Participants are to use whole numbers when scoring “Defect Intensity.” If no defect is noted, participants should check “No defect” and score as a ten (See Scoring Guide below).
- VIII. 10 points will be awarded for each correctly scored sample (100 points total), one point will be deducted for each space the sample is placed away from the official flavor score.
- IX. The range score will be determined by subtracting the contestant range number from the official range number to determine the score value.

Milk Scoring Guide

Refer to the current scorecard being used.

Scores may range from 1 to 10 on a quality basis:

10	Excellent (no defect)
8 to 9	Good
5 to 7	Fair
2 to 4	Poor
1	Unacceptable

Example – Milk Flavor

Defects	Slight	Definite	Pronounced
Acid	3	2	1
Bitter	5	3	1
Feed	9	8	5
Flat / Watery	9	8	7
Foreign	5	3	1
Garlic / Onion	5	3	1
Malty	5	3	1
No Defect	10	10	10
Oxidized	6	4	1
Rancid	4	2	1
Salty	8	6	4

**Suggested scores are given for three intensities of flavor. All numbers within the range may be used. Intermediate numbers may also be used; for example, a bitter sample of milk may score four.*

Individual Activities – Cheese Identification (100 Points)

- Ten cheese samples for identification will be selected from the reference list.
- Cubes of the cheeses will be available for tasting. Note: More than one sample of a given cheese may be used.
- A score of ten points is given for each variety correctly identified. Uncolored cheeses may be used. (100 points possible)

Cheese Reference List

Blue / Bleu	Gouda / Edam	Processed American
Brie	Gruyere	Provolone
Cheddar Mild	Havarti	Queso Fresco
Cheddar Sharp	Monterey Jack	Ricotta
Colby	Mozzarella	Swiss
Cream	Muenster	
Feta	Parmesan	

Individual Activities – Product Identification – Dairy vs Non-Dairy (100 Points)

- I. A total of 10 samples consisting of dairy and non-dairy products will be identified and assigned a
- II. milk-fat content score.
- III. A score of six points is given for each correct product identified.
- IV. A score of four points is given for each correct fat content identified.
- V. The following products may be included among the samples:
- VI. Dairy Products: nonfat (skim) milk (.05%), lowfat milk (1.0%), reduced fat milk (2%), milk (3.25%), half and half (10.5%), butter (80%), sour cream (18%), flavored milk (0.05%–.5%, 1%-2%, 3.25%-3.5%) light whipped cream (30%), heavy cream (36%).
- VII. Non-Dairy Products: margarine, non-dairy creamer, non-dairy sour cream, non-dairy milk, nondairy flavored beverage and non-dairy whipped topping. All of these are to be categorized as non-dairy fat.

Individual Activities – Written Exam (100 Points)

- I. Contestants shall complete a 50-question multiple choice exam based on a 200-question test bank.
- II. Test bank exam questions and answer key are available for download via the California FFA Association and/or CATA Curricular Code website.
- III. California FFA Milk Quality and Products CDE Test Bank will be created and approved by the “Top 5” California Milk Quality and Products team coaches every five years between June 1st and December 31st of the fifth calendar year cycle for use beginning January 1st of the new five-year cycle. Yearly cycles are 2020-2024, 2025-2029, and 2030-2035.
- IV. Test bank generated questions will utilize resources that include past/recent National FFA Organization’s Milk Quality and Products exam questions, other state current Milk Quality and Products test banks.
- V. Four points awarded for each question answered correctly

References

This list of references is not intended to be all-inclusive. Other sources may be utilized, and teachers are encouraged to make use of the very best instructional materials available. The following list contains references that may prove helpful during event preparation.

- National FFA National Career Development Event Questions and Answers, FFA.org, Event Resources, Past exams and practicums
- Dairy Foods: Producing the Best, Dr. Robert Marshall; Instructional Materials Laboratory, [https://ffa.box.com/Dairy Foods booklet](https://ffa.box.com/Dairy%20Foods%20booklet)
- The Dairy Practices Council: Guidelines, www.dairypc.org
 - #21 – Raw Milk Quality Tests
 - #24 – Troubleshooting High Bacteria Counts of Raw Milk
 - #38 – Preventing Off-Flavors in Milk
 - #71 – Prevention of and Testing for Added Water in Milk
 - #98 – Milk Procedures for Dairy Cattle
- Pasteurized Milk Ordinance, <https://www.fda.gov/media/114169/download>
 - Section 1. Definitions
 - Section 6. The Examination Of Milk and/or Milk Products
 - Section 7. Standards for Grade “A” Milk and/or Milk Products
 - Item 15p. Protection from Contamination
 - Appendix E. Examples of 3-Out-Of-5 Compliance Enforcement Procedures
 - Appendix G. Chemical and Bacteriological Tests
 - Appendix K. HACCP Program
 - Appendix N. Drug Residue Testing and Farm Surveillance(NOTE: In the document, items followed by a “P” referred to the Pasteurized side while items followed by an “R” refer to the Raw side.)
- Code of Federal Regulations Title 21, Part 133 – Cheeses and Related Cheese Products, <http://www.accessdata.fda.gov/scripts/cdrh/cfdocs/cfcfr/CFRSearch.cfm?CFRPart=133>
- Code of Federal Regulations Title 21, Part 131 – Milk and Cream, <http://www.accessdata.fda.gov/scripts/cdrh/cfdocs/cfcfr/CFRSearch.cfm?CFRPart=131>
- Swab Procurement: Hygiena PRO-Clean Rapid Protein Residue Test. 25 of the swabs come in a sealed aluminum foil envelope. <https://www.hygienia.com/food-and-beverage-sales/united-states.html>. Web site that a teacher can resource to obtain the sanitation swabs (Hygiena PRO-Clean Rapid Protein Residue Test), obtain a product brochure, and watch a video demonstration on use of the swabs. Updated for 2019. <https://www.hygienia.com/proclean-food-and-beverage.html>. Another possibility is to contact a local dairy processing plant laboratory and ask the lab tech if they would either have some available or be able to order them for the school
- California FFA Milk Quality and Products CDE Test Bank

Resources

- General (Acceptable) Milk Parameters

Bacteria Counts	<100,000/mL
Somatic Cell Count	<750,000/mL
PIC Count	25,000/ml or less is desirable 25,000-50,000/ml is target PIC results should be less than 3-4x the SPC
Temperature	0°C - 7.0°C 32°F - 45°F.
Antibiotics	Negative (-)
Freezing Point	-0.530°H and -0.566°H
Titrateable Acidity	0.13% to 0.17% (up to 0.20% acceptable)
Sanitation Swab	Clean / Pass

California Milk Quality and Products Team Activity Rubric

Team: _____

Indicators	Very Strong Evidence 15 – 11 points	Moderate Evidence Present 10 – 6 points	Strong Evidence Not Present 5 – 0 points	Points Earned	Scoring Weight	Total Score
Bacteria Count	Team clearly identified the test and the results outside of the standards and explained the consequences of the violations.	Team was marginal in identifying the test and results outside of the standards and/or explaining the consequences of the violations.	Team did not identify the test and/or results outside of the standards and/or explain the consequences of the violations.		X 3	
Preliminary Incubation Count (PIC)	Team clearly identified the test results outside of the standards and explained correlation with bacteria count.	Team was marginal in identifying the test results outside of the standards and explained correlation with bacteria count.	Team did not identify the test results outside of the standards and explained correlation with bacteria count.		X 1	
Somatic Cell Count	Team clearly identified the test and the results outside of the standards and explained the consequences of the violations.	Team was marginal in identifying the test and results outside of the standards and/or explaining the consequences of the violations.	Team did not identify the test and/or results outside of the standards and/or explain the consequences of the violations.		X 3	
Temperature (°F)	Team clearly identified the test and the results outside of the standards and explained the consequences of the violations.	Team was marginal in identifying the test and results outside of the standards and/or explaining the consequences of the violations.	Team did not identify the test and/or results outside of the standards and/or explain the consequences of the violations.		X 3	
Antibiotic Test	Team clearly identified the test and the results outside of the standards and explained the consequences of the violations.	Team was marginal in identifying the test and results outside of the standards and/or explaining the consequences of the violations.	Team did not identify the test and/or results outside of the standards and/or explain the consequences of the violations.		X 3	
Freezing Point (°H)	Team clearly identified the test and the results outside of the standards and explained the consequences of the violations.	Team was marginal in identifying the test and results outside of the standards and/or explaining the consequences of the violations.	Team did not identify the test and/or results outside of the standards and/or explain the consequences of the violations.		X 3	
Titrateable Acidity (%)	Team clearly identified the test and the results outside of the standards and explained the consequences of the violations.	Team was marginal in identifying the test and results outside of the standards and/or explaining the consequences of the violations...	Team did not identify the test and/or results outside of the standards and/or explain the consequences of the violations.		X3	
Sanitation Swab	Team clearly identified the test and results outside of the standards and explained purpose of test.	Team was marginal in ID of the test results outside of the standards and explained purpose of test.	Team did not identify the test results outside of the standards and explained purpose of test.		X 1	
Organization / Speaking	Presentation was well-thought, organized, easy to follow, and articulately spoken.	Presentation was marginally well-thought, organized, easy to follow, and articulately spoken.	Presentation was not well-thought, organized, easy to follow, and articulately spoken.		X2	
Posture, Gestures, and Eye Contact	Confident posture. Hand motions natural/expressive. Strong eye-contact.	Confident posture, mannerisms, eye, contact, and body language most of the time.	Lacked positive body language. Hand motions distracting. Occasionally looked elsewhere.		X2	
Time / All Members Participated	All members took an active role in the presentation. Presentation was 5 minutes or less.	Three team members took an active role in the presentation. Presentation was over 5 minutes.	Two or less team members took an active role in the presentation. Presentation was over 5 minutes.		X2	

Judge # (circle one)

#1

#2

#3

Total Points _____ / 390

- Sample Team Activity Data Sheet

Sample Milk Quality and Products Team Activity – Data

Test Results for Dairy Farm #442255

Test	Month 1	Month 2	Month 3	Month 4	Month 5
Bacteria Count x 10 ³	50	40	120	325	95
Preliminary Incubation Count x 10 ⁴	5	5	10	70	9
Somatic Cell Count x 10 ³	100	100	600	740	800
Temperature (°F)	38	40	40	50	38
Antibiotic Test (+/-)	+	-	-	-	-
Freezing Point (°H)	-0.530	-0.516	-0.5240	-0.530	-0.538
Titratible Acidity (%)	0.15	0.16	0.17	0.40	0.21
Sanitation Swab	Pass	Pass	Pass	Fail	Pass

BOLD are violations (exceeds parameters) – Violations will NOT be bolded for contest

Contestants will be given similar data chart without the violation numbers/data being in “bold”.

Teams will need to research/identify consequences for violations for presentation (see References).

Sample Team Activity Start/Presentation Time Sheet

Team	Data Review Start Time	Presentation Time
Team 1	10:30 am	10:45 am
Team 2	10: 40 am	10:55am
Team 3	10:50 am	11:05 am
Team 4	11:00 am	11:15 am
Team 5	11:10 am	11:25 am
Team 6	11:20 am	11:35 am
Team 7	11:30 am	11:45 am
Team 8	11:40 am	11:55am
Team 9	11:50 am	12:05 pm
Team 10	12: 00 am	12:15pm
Team 11	12:10 am	12:25 pm
Team 12	12:20 am	12:35 pm
Team 13	12:30 am	12:45 pm
Team 14	12:40 am	12:55 pm
Team 15	12:50 am	1:05 pm

NATURAL RESOURCES

Revised 06/2024

Purpose

This contest is designed to measure the ability of the student to identify common fauna & flora of California and to test the students' ability to develop and explain the pros & cons concerning natural resource issues. The contest will attempt to determine or demonstrate scientific and political aspects of Natural Resources of California. The contest will attempt to determine the student's knowledge needed for future employment and/or advanced education in the field.

Contestants

Teams consist of four members, with all four individual scores plus the team events counting as the team score. All team members are eligible for individual awards.

Classes

	Individual Points	Team Points
Plant ID	100	400
Animal ID	100	400
Knowledge Test	100	400
Manipulative Skills	50	200
INDIVIDUAL TOTAL	350	1,400
Team Packing	-	200
Team Oral Presentation	-	200
TEAM TOTAL		1,800

Tie Breaker

1. The individual scoring the highest on the knowledge test will be the individual winner. The team scoring the highest on the oral presentation will be the team winner.
2. If a tie still exists, the total score of the team or individual will be used to determine the high team or individual.
3. If a tie still exists for an individual or team then the manipulative skills score will determine the high team or individual.

Sub-contest Awards

Sub-contest awards will be given for high teams and individuals in the following areas: Plant ID, Animal ID, Knowledge Test, Manipulative Skills, and Team Packing & Team Oral Presentation combined (team only).

Rules

- I. Part I. Plant ID – 100 points – 50 samples at two points each.
 - A. The sample will be freshly cut foliage and fruit or flower, when possible. If a fresh sample is not available, a pressed sample can be utilized. An 8 x 11 picture or a computer-generated picture of similar size can be substituted for Wildflowers and must depict a recognizable sample. The score sheet for Plant Identification will be a copy of the Curricular Code list and will be matching. The students will write the proper number on the line adjacent to the plant's scientific name (common name next to it). The Plant samples will be numbered 1-50.
 - B. A time limit of 45 minutes will be provided for plant identification.

- II. Part II. Animal ID – 100 points - 50 animals at two points each.
- A. Recognizable pictures or mounted specimens may be used. Animals from each area should be equally represented. The score sheet for Animal Identification will be a copy of the Curricular Code list and will be matching. The students will write the proper number on the line adjacent to the animal's scientific name (common name next to it).
 - B. A time limit of 45 minutes will be provided for animal identification.

III. Part III. Oral Topic Team Presentation – 200 points.

- A. Contestants will have 30 minutes to prepare a ten minute oral presentation from a topic given based on rotational years. Subtopic to be determined by contest host. All reference and graphic materials will be provided to the team at the beginning of their preparation time including twenty 3"x5" index cards that may be used during the team's presentation. The judge will ask a question at the conclusion of the presentation. Two minutes will be allowed for the team's response. Contest host will supply materials specific to their scenario. Scorecard is in the appendix.

Oral Presentation Topics:

1. Forest Management	2024
2. Wildlife Management	2025
3. Range Management	2026
4. Energy	2027
5. Soil Management	2028
6. Water	2029

IV. Part IV. Knowledge Test – 100 points.

- A. A written exam consisting of 50 multiple choice questions will be developed from the following Reference: 'National Audubon Society Field Guide to California,' published by Alfred Knoph and authored by Fred heath and Peter Alden. The questions will come from pages 10 through 65.

V. Part V. Team Packing – 200 points.

- A. Team members may use a standard stopwatch to track time.
- B. A saddled pack animal, lash rope and mantee will be provided to the team. In even years pack boxes will be provided and a box hitch will be used. The load items may include tools used on the trail such as saws, fuel containers, shovels, or similar trail or camp equipment. In odd years, canvas bags will be provided and a diamond hitch will be used. Possible load items may be sleeping bags and other tack put in canvas bags used on the trail or camp. The cycle will be alternate years.
- C. See scorecard below.

VI. Part VI. Manipulative Skills (hands on) - 50 points.

Contest is to include any five of the following activities using a minimum of one from each category at ten points each. Score this section on a continuum scale: From 1-10 points per activity.

- A. Dendrochronology
 1. Given a log cross section, determine the age of a tree counting the pith as two years.
 2. Given a log cross section determine the time period of a drought.
 3. Given a log round cross section determine if a fire is indicated in the growth rings.
 4. Using a long round, determine the time period in which a release cut was made.
- B. Measurements/Instrumentation

1. GPS – entry level skills to include but not limited to marking/finding way points, evaluation, longitude and latitude.
 2. Determine the elevation of a given indicated point, on a topographical/contour map. Ten points possible - 2 per contour intervals off of the correct answer.
 3. Take five random samples each one foot square, of native forage (from rangeland) from a given area (from 2-10 acres) and determine the total weight of biomass (forage) the five plots and then determine the biomass for the indicated area.
 4. Determine the location of two geographical sites, give the latitude and longitude using GPS equipment. 5 points each.
 5. Clinometer used to measure or evaluate slope.
- C. Environmental Analysis
1. The student will be given five tracks at two points each to identify from page 343 and 344 of the National Audubon Society Field Guide to California.
 2. Given one of the following: Given a Life Zone such as Lower Montane Zone, Upper Montane Zone, Sub Alpine Zone, Alpine Zone, or Foothill Oak Woodland, indicate the primary plants that occupy the Life Zone. Name up to five.
- VII. Reference:
- A. The 'National Audubon Society Field Guide to California', by Alden and Heath, published by Alfred Knoph, New York

Appendices**Part I. – Plant ID****Browse**

___	<i>Adenostoma fasciculatum</i>	Chamise
___	<i>Amsinckia menziesii</i>	Fiddleneck
___	<i>Arctostaphylos manzanita</i>	Common Manzanita
___	<i>Artemisia</i> spp	California Sage or Big Sagebrush
___	<i>Baccharis pilularis</i>	Coyote Bush
___	<i>Ceanothus cuneatus</i>	Buckbrush
___	<i>Ceanothus thyrsiflorus</i>	Blue Blossom
___	<i>Cercarpus betuloides</i>	Mountain Mahogany
___	<i>Cornus stolonifera</i>	Red Osier Dogwood
___	<i>Cercis occidentalis</i>	Western Redbud
___	<i>Cytisus scoparius</i>	Scotch Broom
___	<i>Eriogonum fasciculatum</i>	California Buckwheat
___	<i>Garrya elliptica</i>	Silktassel
___	<i>Heteromeles arbutifolia</i>	Toyon
___	<i>Hordeum jubatum</i>	Foxtail Barley
___	<i>Isomeris arborea</i>	Bladder Pod
___	<i>Juniperus californica</i>	California Juniper
___	<i>Marah macrocarpus</i>	Wild Cucumber
___	<i>Larrea tridentate</i>	Creosote Bush
___	<i>Lonicera hispidula</i>	California Honeysuckle
___	<i>Polystichum munitum</i>	Western Sword Fern
___	<i>Prosopis pubescens</i>	Screwbean Mesquite
___	<i>Quercus dumosa</i>	Scrub Oak
___	<i>Rhamnus californica</i>	Coffeeberry
___	<i>Rhus ovata</i>	Sugar Bush
___	<i>Ribes aureum</i>	Golden Current
___	<i>Ribes speciosum</i>	Fuchsia Flowered Gooseberry
___	<i>Rubus ursinus</i>	Trailing Blackberry
___	<i>Salix hindsiana</i>	Sandbar Willow
___	<i>Vaccinium ovatum</i>	Evergreen Huckleberry
___	<i>Vitis californica</i>	California Wild Grape

Trees

___	<i>Abies concolor</i>	White Fir
___	<i>Acer negundo</i>	California Box Elder
___	<i>Alnus rubra</i>	Red Alder
___	<i>Arbutus menziesii</i>	Pacific madrone
___	<i>Calocedrus decurrens</i>	Incense Cedar
___	<i>Cornus nuttallii</i>	Pacific Dogwood
___	<i>Fraxinus latifolia</i>	Oregon Ash

___	<i>Juglans californica</i>	California Black Walnut
___	<i>Juniperus occidentalis</i>	Western Juniper
___	<i>Pinus contorta</i>	Lodgepole Pine
___	<i>Pinus lambertiana</i>	Sugar Pine
___	<i>Pinus ponderosa</i>	Ponderosa or Yellow Pine
___	<i>Pinus sabiniana</i>	Foothill or Gray Pine
___	<i>Platanus racemosa</i>	California Sycamore
___	<i>Populus fremontii</i>	Fremont Cottonwood
___	<i>Populus tremuloides</i>	Quaking Aspen
___	<i>Pseudotsuga menziesii</i>	Douglas Fir
___	<i>Quercus chrysolepis</i>	Canyon Live Oak
___	<i>Quercus douglasii</i>	Blue Oak
___	<i>Quercus kelloggii</i>	California Black Oak
___	<i>Quercus lobata</i>	Valley Oak
___	<i>Salix lucida</i>	Pacific Willow
___	<i>Sambucus mexicana</i>	Blue Elderberry
___	<i>Sequoia sempervirens</i>	Coastal Redwood
___	<i>Sequoiadendron giganteum</i>	Giant Sequoia
___	<i>Umbellularia californica</i>	California Bay Laurel
___	<i>Yucca brevifolia</i>	Joshua Tree
___	<i>Yucca schidigera</i>	Mojave Yucca

Wild Flowers

___	<i>Aguilegia formosa</i>	Red Columbine
___	<i>Castilleja</i> spp.	Paintbrush
___	<i>Delphinium nuttallianum</i>	Nuttall's Larkspur
___	<i>Datura stramonium</i>	Jimson Weed
___	<i>Epilobium canum</i>	California Fuchsia
___	<i>Erodium cirutarium</i>	Red-Stem Fillaree
___	<i>Erysimum capitatum</i>	Western Wallflower
___	<i>Eschscholzia californica</i>	California Poppy
___	<i>Fragaria vesca</i>	Woodland Strawberry
___	<i>Heracleum lanatum</i>	Cow Parsnip
___	<i>Lasthenia californica</i>	California Goldenfields
___	<i>Lilium paradalinum</i>	Leopard Lily
___	<i>Iris missouriensis</i>	Western Blue Flag Iris
___	<i>Lupinus</i> spp.	Lupine
___	<i>Mimulus aurantiacus</i>	Bush Monkey Flower
___	<i>Mentha arvensis</i>	Field Mint
___	<i>Nemophila menziesii</i>	Baby Blue Eyes
___	<i>Pennisetum setaceum</i>	Fountain Grass
___	<i>Potentilla pacifica</i>	Pacific Silverweed
___	<i>Rhomneya coulteri</i>	Matilija Poppy

___	<i>Rosa californica</i>	California Wild Rose
___	<i>Salvia dorrii</i>	Grayball Sage
___	<i>Sarcodes sanguinea</i>	Snow Plant
___	<i>Taraxacum officinale</i>	Dandelion
___	<i>Typha latifolia</i>	Broadleafed Cattail
___	<i>Urtica dioica</i>	Stinging Nettle
___	<i>Viola adunca</i>	Western Blue Violet
___	<i>Verbascum thapsus</i>	Wooly Mullein
___	<i>Xerophyllum tenax</i>	Bear Grass
___	<i>Zigadenus venenosus</i>	Death Camas

Part II. Animal ID

A balanced selection of items from each area is recommended.

Mammals - Tracks, Pictures or Mounts

___	<i>Antilocarpa americana</i>	Pronghorn Antelope
___	<i>Balaenoptera musculus</i>	Blue Whale
___	<i>Canis latrans</i>	Coyote
___	<i>Cervus elaphus</i>	Tule Elk
___	<i>Didelphis virginiana</i>	Virginia Opossum
___	<i>Enhydra lutris</i>	Sea Otter
___	<i>Erethizon dorsatum</i>	Porcupine
___	<i>Felis concolor</i>	Mountain Lion
___	<i>Lepus californicus</i>	Black Tailed Rabbit
___	<i>Lynx rufus</i>	Bobcat
___	<i>Lutra canadensis</i>	Northern River Otter
___	<i>Marmonta flaviventris</i>	Yellow-Bellied Marmot
___	<i>Martes americana</i>	American Marten
___	<i>Megaptera novaeangliae</i>	Humpback Whale
___	<i>Mephitis mephitis</i>	Striped Skunk
___	<i>Odocoileus hemoinus</i>	Black-tailed Deer
___	<i>Orcinus orca</i>	Killer Whale (Orca)
___	<i>Ovis canadensis</i>	Bighorn Sheep
___	<i>Procyon lotor</i>	Raccoon
___	<i>Sciurus griseus</i>	Western Gray Squirrel
___	<i>Spermophilus beecheyi</i>	California Ground Squirrel
___	<i>Sylvilagus audubonii</i>	Cottontail
___	<i>Tamias amoenus</i>	Yellow-Pine Chipmunk
___	<i>Taxidea taxus</i>	American Badger
___	<i>Tursiops truncatus</i>	Bottled-Nosed Dolphin
___	<i>Urocyon cinereoargenteus</i>	Gray Fox
___	<i>Ursus americanus</i>	Black Bear
___	<i>Vulpes velox</i>	Kit Fox
___	<i>Zalophus californianus</i>	California Sea Lion

Birds

___	Aix sponsa	American Wood Duck
___	Anas crecca	Green-winged Teal
___	Anas cyanoptera	Cinnamon Teal
___	Anas platyrhynchos	Mallard
___	Aquila chrysaetos	Golden Eagle
___	Ardea herodias	Great Blue Heron
___	Branta canadensis	Canada Goose
___	Bubo virginianus	Great Horned Owl
___	Bucephala albeola	Bufflehead
___	Buteo jamaicensis	Red Tailed Hawk
___	Buteo swainsoni	Valley Quail
___	Cathartes aura	Turkey Vulture
___	Ceryle alcyon	Belted King Fisher
___	Charadrius vociferous	Killdeer
___	Colaptes auratus	Flicker
___	Egretta thula	Snowy Egret
___	Falco peregrinus	Peregrine Falcon
___	Falco sparverius	American Kestrel
___	Geococcyx californianus	Greater Roadrunner
___	Haliaeetus leucocephalus	Bald Eagle
___	Melanerpes formicivorus	Acorn Woodpecker
___	Meleagris gallopaua	California Wild Turkey
___	Oreortyx pictus	Mountain Quail
___	Sturnella neglecta	Meadow Lark
___	Tyto alba	Barn Owl
___	Zenaidura macroura	Mourning Dove

Fish

___	Acipenser transmontanus	White Sturgeon
___	Ameiurus nebulosus	Brown Bullhead/Speckled Catfish
___	Catostomus occidentalis	Sacramento Sucker
___	Cyprinus carpio	Common Carp
___	Dasyatis dipterura	Diamond Stingray
___	Gymnothorax mordax	California Moray
___	Hypsypops rubicundus	Garibaldi
___	Ictalurus punctatus	Channel Catfish
___	Lepomis macrochirus	Bluegill
___	Micropterus dolomieu	Smallmouth Bass
___	Micropterus salmoides	Largemouth Bass
___	Mola mola	Ocean Sunfish
___	Morone saxatilis	Striped Bass

___	<i>Ophiodon elongatus</i>	Lingcod
___	<i>Oncorhynchus kisutch</i>	Coho/Silver Salmon
___	<i>Oncorhynchus tshawytscha</i>	Chinook/King Salmon
___	<i>Oncorhynchus aquabonita</i>	Golden Trout
___	<i>Oncorhynchus (Salmo) mykiss</i>	Rainbow Trout
___	<i>Paralichthys californicus</i>	California Halibut
___	<i>Pomoxis annularis</i>	White Crappie
___	<i>Salvelinus fontinalis</i>	Brook Trout
___	<i>Salmo trutta</i>	Brown Trout
___	<i>Sarda chiliensis</i>	Pacific Bonito
___	<i>Thunnus thynnus</i>	Bluefin Tuna
___	<i>Thunnus alalunga</i>	Albacore
___	<i>Xiphias gladius</i>	Swordfish

Amphibians and Reptiles

___	<i>Bufo boreas</i>	Western Toad
___	<i>Charina bottae</i>	Rubber boa
___	<i>Coleonyx variegatus</i>	Western Banded Gecko
___	<i>Crotalus cerastes</i>	Sidewinder Rattlesnake
___	<i>Crotalus viridis</i>	Western Rattlesnake
___	<i>Dicamptodon ensatus</i>	Giant Pacific Salamander
___	<i>Diadophis punctatus</i>	Ringneck Snake
___	<i>Elgaria multicarinata</i>	Alligator Lizard
___	<i>Ensatina eschscholtzii</i>	Ensatina Salamander
___	<i>Eumeces skiltonianus</i>	Western Skink
___	<i>Gopherus agassizii</i>	Desert Tortoise
___	<i>Hyla regilla</i>	Pacific Tree Frog
___	<i>Lampropeltis getulus</i>	Common Kingsnake
___	<i>Lampropeltis zonota</i>	California Mountain Kingsnake
___	<i>Lichanura trivirgata</i>	Rosy Boa
___	<i>Pituophis melanoleucus</i>	Gopher Snake
___	<i>Phrynosoma coronatum</i>	Coast Horned Lizard
___	<i>Rana catesbeiana</i>	Bull Frog
___	<i>Sauromalus obesus</i>	Chuckwalla
___	<i>Sceloporus occidentalis</i>	Western Fence Lizard
___	<i>Taricha torusa</i>	California Newt
___	<i>Thamnophis elegans</i>	Western Terrestrial Garter Snake
___	<i>Thamnophis sirtalis</i>	Common Garter Snake

Total Correct _____

Oral Presentation Scorecard

Skill	Points
Technical Knowledge of the Subject	40
Organization (into, body, conclusion)	40
Speech (delivery and force)	40
Solutions and Critical Thinking	40
Balance Between Team Members	40
Possible Total	200

Animal Packing Scorecard**Team Name & Number** _____

		Points Possible	Points Earned
Team Work			
	Communication between ALL members, with ALL members participating.	10	
	Teamwork weighing items and loading bags/boxes.	10	
	1 or 2 members carry load to animal while teammate on opposite side lifts ears of bag/box onto saddle.	10	
	Total Team Work	30	
Safety and Confidence with the Animal			
	Do not throw mantee or lash rope over or under animal (hand to teammate).	10	
	Do not stand an unsafe distance behind animal (be close or far away).	10	
	Do not wrap lead rope or lash rope around hands or arms.	10	
	Is holder able to control animal? It is holder's job to keep animal from stepping on or getting tangled in rope.	10	
	Does holder have animal positioned correctly for packing? (Facing load and not too far away.)	10	
	Total Safety and Confidence with the Animal	50	
Quality and Balance of the Load			
	Bags/boxes packed with good weight distribution and heavy items on bottom. Any long items protruding out toward the animal's flanks or neck need to be wrapped so that they are secure and not touching the animal. Do bags/boxes weigh the same?	20	
	Top load centered with saddle forks visible.	10	
	Bag/box with buck strap should go on first, on the off side. All straps on boxes/bags need to be snug across load and buckled.	10	
	Total Quality and Balance of the Load	40	
Proper and Secure Mantee and Hitch			
	Mantee centered with long edge across pack and equal amounts on each side. Mantee is tucked in on edges and behind forks with nothing hanging below bottom of boxes/bags.	10	
	No twists in lash cinch with buckle off of animal's sides. The hook must face toward the rear of the animal.	10	
	Is there a correct diamond or box hitch and is it centered?	20	
	Is the lash rope tight and tied off securely with no loops or extra rope hanging below bottom of bags/boxes.	20	
	Total Proper and Secure Mantee and Hitch	60	
	Time _____ 8 minutes or less = 10 points 8:01 – 9:00 minutes = 8 points 9:01 – 10:00 minutes = 6 points 10:01 – 11:00 minutes = 4 points 11:01 – 12:00 minutes = 2 points Zero points awarded if the team is not finished at 12 minutes. Teams will be stopped at 12 minutes.	20	
	Total possible (if within 8 minutes)	200	
	Final Score Possible	200	

Judging Guidelines

We recognize that there are many correct and effective packing methods. This guide is intended only to standardize the packing rules and equipment used for the California FFA Natural Resources CDE. This information should be available, in advance, to the person providing the pack stock and equipment, to the judge, and to the teams. A copy of their scorecard should be sent home with each team.

An assistant with a calculator and clipboard should be provided to the judge to tally the scorecards and assist with unloading and weighing each load after the team finishes.

A method of weighing the boxes or bags should be provided by the judge.

Pack animal must be gentle and able to stand quietly and less than 15 hands at the top of shoulder.

Saddling, tightening cinches, and adjusting straps on pack saddles and ear straps on pack bags or boxes should be done by the judge and is not a part of the competition.

Items to be packed should be laid out as similarly as possible for each team and covered. After the team approaches the load, they will be given a short time to view the load, (without touching), and then given the command to begin, as the judge starts the time clock.

When duffel or stuff bags are to be included in the load, team should be advised that these are to be packed "as is" with nothing to be added or removed.

For this competition, the left side is referred to as "the on side" and right side as "the off side." Boxes/bags should have a buck strap on the off side load and should be loaded first.

Lash ropes must be long enough to wrap any items that protrude from front or rear of boxes and to tie off securely to the top of the load.

For both the Diamond and Box Hitch, the method used to tie the hitch should not be considered as long as the completed hitch is correct.

For the Diamond Hitch: Bags rather than boxes should be used and a top load that extends above the top of the forks must be provided.

For the Box Hitch: Boxes rather than bags should be used. Top load is optional. Load should include something that protrudes from the front or rear of boxes and needs to be wrapped to be secure.

It is suggested that each school contact an experienced packer in their area to demonstrate tying the actual hitch, as it is difficult to learn without "hands-on" experience.

NURSERY/LANDSCAPE

Revised 6/2024

Purpose and Standards

The Nursery/Landscape contest prepares students for careers in the nursery and landscaping industries. Topics include plant identification, plant physiology, soil science, plant reproduction, nursery production, as well as landscape design, installation, and maintenance.

Foundation Standards: Mathematics Algebra, 15.0 and Geometry 8.0, 11.0. History & Social Science Principles of Economics: 12.2.2, 12.2.5, 12.2.6, 12.2.7. Communication: 1.1, 2.2, 1.8.

Ornamental Horticulture Pathway Standards: F1.1-1.5, F2.1-2.6, F3.1-3.3, F4.1-4.4, F5.1-5.5, F6.1-6.4, F7.1-7.3, F8.1-8.4, F9.1-9.4, F10.1-10.5.

Contestants

Teams consist of four members, with all four individual scores counting as the team score. All team members are eligible for individual awards.

JudgingCard

It is recommended that the Nursery/Landscape Contest uses JudgingCard Scan Sheet #105482, but General Rules state that contest hosts may use the card they see fit.

Classes

Class	Individual Points	Team Points
Trees class placed	50	200
Shrub class placed	50	200
Flat class placed	50	200
Reasons 1	50	200
Reasons 2	50	200
Transplanting	50	200
Identification	400	1600
Written Test	150	600
TOTAL	850	3400

Tie Breaker

1. The team or individual scoring the highest total reason score(s) will be the winner.
2. If a tie still exists, the written test (or other class) will be used to determine the high individual or team.
3. If a tie still exists, the total score of the individual or team will be used to determine the high individual or team.

Sub-contest Awards

Sub-contest awards will be given for high teams and individuals in the following areas: Judging (Trees, Shrubs, Flats combined), Reasons, Transplants, ID, and Written Test. (Reasons are **not included** in judging sub-contest score.)

Rules

- I. Judging
 - A. All Plants used for judging shall come from the Curricular Code Nursery/Landscape Identification list.
 - B. Three classes will be judged. They will be labeled 1, 2, and 3.
 - C. The three classes shall consist of:
 1. One class of trees (The trees will be growing in 5 gallon cans.)
 2. One class of shrubs (The shrubs will be growing in 5 gallon cans.)
 3. One class of standard flats of marketable bedding plants
 - D. Contestants will be awarded 0-50 points for each placing.
 - E. Ten minutes will be allowed for judging each class.
 - F. Contestants are not allowed to handle any contest material.
- II. Reasons
 - E. Reasons will be given on two of the three classes judged.
 - F. Reasons will be given immediately following the class that was judged.
 - G. Contestants will be given two minutes for presenting oral reasons in each class.
 - H. 0-50 points will be given based on the following criteria:

Category	Points Possible
Subject Matter	30 Points
Logic and Force	15 Points
Bearing and address	5 Points
Total	50 Points

III. **Score cards**

Tree Judging Score Card		Value
A.	Size	20%
	1) Height of tree	
	2) Spread of branches	
	3) Circumference of trunk	
B.	Framework	20%
	1) Distribution of branches	
	2) General symmetry	
C.	Pruning	20%
	1) Systems should be in accord with length of growth - severe, moderate or light	
	2) Flowering wood evenly distributed	
	3) Interfering branches and dead wood removed	
	4) Pruning cuts properly made and treated	
D.	Vigor	20%
	1) Good color and large leaves	
	2) Sufficient new wood	
	3) New wood in good condition--not spindling	
E.	Health	20%
	1) Fungus or bacterial disease	
	2) Insect pests	
	3) Physiological diseases	
	4) Mechanical injury	
	5) Sunburn	
	6) Frost injury	
	TOTAL	100%

Shrubs Judging Score Card		Value
A.	Size	40%
	1) Height of plant	
	2) Spread of branches	
	3) Form	
B.	Framework	20%
	1) Distribution well placed	
	2) General symmetry -- well shaped	
C.	Pruning	10%
	1) Systems should be in accord with length of growth - severe, moderate or light	
	2) Flowering wood evenly distributed	
	3) Interfering branches and dead wood removed	
	4) Pruning cuts properly made and treated	
E.	Health and Vigor	30%
	1) Good color and large leaves	
	2) Sufficient new wood past season	
	3) New wood in good condition--not spindling	
	4) Fungus or bacterial disease	
	5) Insect pests	
	6) Physiological diseases	
	7) Mechanical injury	
	8) Sunburn	
	9) Frost injury	
	TOTAL	100%

Flat Judging Score Card		Value
A.	Uniformity	40%
	1) Size of plant	
	2) Number of plants	
	3) Uniformity of spotting	
B.	Health and Vigor	40%
	1) Sufficient growth	
	2) Good color and large leaves	
	3) New growth in good condition--not spindling	
	4) Fungus or bacterial disease	
	5) Insect pests	
	6) Physiological diseases	
	7) Mechanical injury	
	8) Sun damage	
	9) Soil condition	
C.	Salability	20%
	TOTAL	100%

IV. Transplanting

- A. Contestants will transplant one liner to a 1-gallon container, which will be worth 50 points: 25 points for the mechanics and 25 points for the explanation of the process to a judge. A ten (10) point deduction will be made if the explanation exceeds three (3) minutes.

Transplant Score Card	Value
Mechanics	
1. Checking soil for moisture	5
2. Removing liner from pot	5
3. Centering plant in can	5
4. Proper level of plant/soil level	5
5. Watering the transplanted liner	5
Explanation of Process	
Explanation of the quality of the liner and the steps outlined in the mechanics of the process.	25
TOTAL	50

V. Identification

A. There will be identification of:

1. Bedding Plants (6)
2. Perennials (7)
3. Ferns (2)
4. House Plants (10)
5. Shrubs (30)
6. Trees (17)
7. Vines (5)
8. Ground Covers (5)
9. Cacti and Succulents (3)
10. Buds and Grafts, Tools and Materials (15)

B. Plant, tool, buds, graft and materials identification:

1. The contest host will provide to each contestant with the Nursery/Landscape Identification List (Attached)
2. One hundred (100) identification items worth 4 points each will be bubbled in on the JudgingCard Scan Sheet.
3. ID will be split into two sections of 1-50 A and 1-50 B but will all be completed in the same rotation within 60 minutes.
4. Each contestant will receive a minimum of 60 minutes.
5. The plant list will align with the California Certified Nursery Professional Plant List and will be updated on each curricular code cycle.
6. Identification items will be typical of container stock found in a retail nursery. Six (6) bedding plants, seven (7) perennials, two (2) ferns, ten (10) house plants, thirty (30) shrubs, seventeen (17) trees, five (5) vines, five (5) ground covers, three (3) cacti & succulents and fifteen (15) buds, grafts, tools and materials will be selected from their respective groups on the Nursery/Landscape Identification List.

C. Identification exam shall be on the JudgingCard scantron sheet. A sample is on the CATA website for the Curricular Code

D. Contestants are not allowed to handle any contest material.

VI. General Knowledge Objective Test

A. A 50 question general knowledge objective test shall consist of:

1. Fifteen true/false questions
2. Fifteen multiple choice questions
3. Twenty matching questions

B. All questions will be drawn from the most current text, Retail Nurseryman's Manual, prepared by California Association of Nurseries and Garden Centers, as well as Landscaping: Principles & Practices (Ingels) - Chapter 3: Principles of Design, Chapter 12: Pricing the Proposed Design, Chapter 14: Landscape Calculations. The test will also include questions referring to landscape and landscape design, as well as cost estimating, reading, and interpreting landscape design plans, and assessing an area for installation.

C. Contestants will be given forty-five minutes to complete the test.

D. Contestants will not be able to ask any contest personnel questions which seek interpretation of or answers to test questions during the administration of the objective test.

E. Each question will be worth three points with 150 points total possible.

VII. Nursery/Landscape Identification List

TR 001	<i>Acer palmatum</i>	Japanese Maple
TR 002	<i>Arbutus unedo</i>	Strawberry Tree
TR 003	<i>Archontophoenix cunninghamiana</i>	King Palm
TR 004	<i>Cedrus deodara</i>	Deodar Cedar
TR 005	<i>Cercis occidentalis</i>	Western Redbud
TR 006	<i>Chamaerops humilis</i>	Mediterranean Fan Palm
TR 007	<i>Cinnamomum camphora</i>	Camphor Tree
TR 008	<i>Citrus</i> 'Improved Meyer'	Improved Meyer Lemon
TR 009	<i>Cupaniopsis anacardioides</i>	Carrot Wood
TR 010	<i>Cupressus sempervirens</i>	Italian Cypress
TR 011	<i>Elaeocarpus decipiens</i>	Japanese Blueberry Tree
TR 012	<i>Eucalyptus polyanthemos</i>	Silver Dollar Gum
TR 013	<i>Geijera parviflora</i>	Australian Willow, (Wilga)
TR 014	<i>Ginkgo biloba</i>	Maidenhair Tree
TR 015	<i>Jacaranda mimosifolia</i>	Jacaranda
TR 016	<i>Lagerstroemia indica</i>	Crape Myrtle
TR 017	<i>Liquidambar styraciflua</i>	American Sweet Gum
TR 018	<i>Magnolia grandiflora</i>	Southern Magnolia, (Bull Bay)
TR 019	<i>Maytenus boaria</i>	Mayten
TR 020	<i>Morus alba</i> 'Fruitless'	Fruitless Mulberry
TR 021	<i>Olea europaea</i>	Olive
TR 022	<i>Pinus canariensis</i>	Canary Island Pine
TR 023	<i>Pinus thunbergii</i>	Japanese Black Pine
TR 024	<i>Pistachia chinensis</i>	Chinese Pistache
TR 025	<i>Pyrus calleryana</i>	Flowering Pear
TR 026	<i>Quercus agrifolia</i>	Coast Live Oak
TR 027	<i>Quercus lobata</i>	Valley Oak
TR 028	<i>Sequoia sempervirens</i>	Redwood, (Coast Redwood)
TR 029	<i>Syagrus romanzoffiana</i> (<i>romanzoffianum</i>), (<i>Arecastrum romanzoffianum</i>)	Queen Palm
TR 030	<i>Trachycarpus fortunei</i>	Windmill Palm
SH 031	<i>Abelia</i> 'Edward Goucher'	Pink Abelia 'Edward Goucher'
SH 032	<i>Abutilon hybrids</i>	Flowering Maple, (Chinese Lantern)
SH 033	<i>Alyogyne</i> (<i>Hibiscus</i>) <i>huegelii</i>	Blue Hibiscus
SH 034	<i>Anisodonteia x hypomandarum</i>	Cape Mallow
SH 035	<i>Aucuba japonica</i> 'Variegata'	Gold Dust Plant, (Japanese Aucuba)
SH 036	<i>Bambusa multiplex</i> (<i>glaucescens</i>) 'Golden Goddess'	Golden Goddess Bamboo
SH 037	<i>Brunfelsia pauciflora</i> (<i>calycina</i>) 'Floribunda'	Yesterday-Today-And-Tomorrow
SH 038	<i>Buddleja davidii</i> ¹	Butterfly Bush, (Summer Lilac)
SH 039	<i>Buxus microphylla japonica</i>	Japanese Boxwood
SH 040	<i>Calliandra haematocephala</i>	Pink Powder Puff
SH 041	<i>Callistemon viminalis</i> 'Little John'	Dwarf Bottlebrush

SH 042	<i>Camellia japonica</i>	Japanese Camellia
SH 043	<i>Camellia sasanqua</i>	Sasanqua Camellia
SH 044	<i>Carissa macrocarpa</i> 'Tuttle', ('Nana Compacta Tuttlei')	Natal Plum
SH 045	<i>Ceanothus griseus horizontalis</i>	Carmel Creeper
SH 046	<i>Cestrum nocturnum</i>	Night Jessamine
SH 047	<i>Cistus x purpureus</i>	Orchid Rockrose
SH 048	<i>Coleonema pulchellum (pulchrum)</i>	Sunset Gold Coleonema
SH 049	<i>Cotoneaster horizontalis</i>	Rock Cotoneaster
SH 050	<i>Cuphea hyssopifolia</i>	False (Hawaiian, Mexican) Heather
SH 051	<i>Cycas revoluta</i>	Sago Palm
SH 052	<i>Daphne odora</i> 'Aureomarginata' ('Aureo-marginata', 'Marginata')	Winter Daphne
SH 053	<i>Dodonaea viscosa</i> 'Purpurea'	Purple Hop Bush, (Purple Hopseed Bush)
SH 054	<i>Echium candicans (fastuosum)</i>	Pride of Madeira
SH 055	<i>Escallonia x exoniensis</i> ('Frades')	Escallonia
SH 056	<i>Euonymus japonicus</i> 'Aureovariegatus'	Gold Spot Euonymus
SH 057	<i>Fatsia japonica</i>	Japanese Aralia
SH 058	<i>Feijoa (Acca) sellowiana</i>	Pineapple Guava
SH 059	<i>Forsythia x intermedia</i>	Forsythia
SH 060	<i>Gardenia jasminoides (augusta)</i> 'Veitchii'	Everblooming Gardenia
SH 061	<i>Grevillea</i> 'Noellii'	Grevillea
SH 062	<i>Hibiscus rosa-sinensis</i>	Chinese Hibiscus, (Tropical Hibiscus)
SH 063	<i>Hibiscus syriacus</i>	Rose of Sharon, (Shrub Althaea)
SH 064	<i>Hydrangea macrophylla</i>	Bigleaf Hydrangea, (Garden Hydrangea)
SH 065	<i>Juniperus chinensis</i> 'Kaizuka', ('Torulosa')	Hollywood Juniper
SH 066	<i>Juniperus procumbens</i> 'Nana'	Dwarf Japanese Garden Juniper
SH 067	<i>Juniperus rigida conferta</i> 'Blue Pacific'	Shore Juniper
SH 068	<i>Laurus nobilis</i>	Sweet Bay, (Grecian Laurel)
SH 069	<i>Lavatera maritima</i>	Tree Mallow
SH 070	<i>Leonotis leonurus</i>	Lion's Tail
SH 071	<i>Leptospermum scoparium</i>	New Zealand Tea Tree
SH 072	<i>Ligustrum japonicum</i> 'Texanum'	Wax-Leaf Privet, Japanese Privet
SH 073	<i>Loropetalum chinense</i>	Chinese Fringe Flower
SH 074	<i>Lycianthes (Solanum) rantonnetii</i>	Blue Potato Bush
SH 075	<i>Myrsine africana</i>	African Boxwood
SH 076	<i>Myrtus communis</i> 'Compacta'	Dwarf Myrtle
SH 077	<i>Nandina domestica</i> 'Gulf Stream'	Gulf Stream Heavenly Bamboo
SH 078	<i>Nerium oleander</i>	Oleander
SH 079	<i>Philodendron bipinnatifidum (selloum)</i>	Philodendron
SH 080	<i>Phoenix roebelenii</i>	Pygmy Date Palm
SH 081	<i>Phormium tenax</i>	New Zealand Flax
SH 082	<i>Photinia x fraseri</i>	Photinia
SH 083	<i>Pieris (Andromeda) japonica</i>	Lily-Of-The-Valley Shrub
SH 084	<i>Pinus mugo (mugo mugo)</i>	Mugo Pine
SH 085	<i>Pittosporum tenuifolium (nigricans)</i>	Kohuhu
SH 086	<i>Pittosporum tobira</i> 'Wheeler's Dwarf'	Wheeler's Dwarf Mock Orange

SH 087	<i>Platycladus (Thuja) orientalis</i> 'Aurea Nana'	Dwarf Golden Arborvitae
SH 088	<i>Plumbago auriculata</i> (capensis)	Cape Plumbago
SH 089	<i>Podocarpus gracilior</i>	Fern Pine
SH 090	<i>Polygala x dalmaisiana</i>	Sweet Pea Shrub
SH 091	<i>Pyracantha crenatoserrata</i> (fortuneana) 'Graberi'	Grabber Pyracantha
SH 092	<i>Rhaphiolepis indica</i>	Indian Hawthorn
SH 093	<i>Rhododendron (Azalea) indica</i>	(Southern) Indica Azalea
SH 094	<i>Schefflera arboricola</i>	Hawaiian Elf Schefflera
SH 095	<i>Strelitzia reginae</i>	Bird of Paradise
SH 096	<i>Syringa vulgaris</i>	Common Lilac
SH 097	<i>Syzygium paniculatum</i> (<i>Eugenia myrtifolia</i>)	Brush Cherry, (Australian Brush Cherry)
SH 098	<i>Tecoma (Tecomaria) capensis</i>	Cape Honeysuckle
SH 099	<i>Teucrium fruticans</i>	Bush Germander
SH 100	<i>Tibouchina urvilleana</i> (semidecandra)	Princess Flower
SH 101	<i>Viburnum opulus</i> 'Roseum' ('Sterile')	Common Snowball
SH 102	<i>Viburnum tinus</i> 'Spring Bouquet'	Spring Bouquet Viburnum
SH 103	<i>Westringia fruticosa</i> (rosmariniformis)	Coast Rosemary
SH 104	<i>Xylosma congestum</i>	(Shiny) Xylosma
VI 105	<i>Bougainvillea</i> hybrids	Bougainvillea
VI 106	<i>Clematis</i> hybrids	Clematis
VI 107	<i>Clytostoma callistegioides</i>	Violet Trumpet Vine
VI 108	<i>Gelsemium sempervirens</i>	Carolina Jessamine
VI 109	<i>Hardenbergia violacea</i>	Lilac Vine
VI 110	<i>Jasminum polyanthum</i>	Pink Jasmine
VI 111	<i>Mandevilla x 'Alice du Pont'</i>	Alice Du Pont Mandevilla
VI 112	<i>Pandorea jasminoides</i> 'Rosea'	Pink Bower Vine
VI 113	<i>Parthenocissus tricuspidata</i>	Boston Ivy
VI 114	<i>Passiflora</i> spp.	Passion Vine
VI 115	<i>Solanum laxum</i> (jasminoides)	Potato Vine
VI 116	<i>Stephanotis floribunda</i>	Madagascar Jasmine
VI 117	<i>Thunbergia alata</i>	Black-Eyed Susan Vine
VI 118	<i>Trachelospermum jasminoides</i>	Star Jasmine
VI 119	<i>Wisteria sinensis</i>	Chinese Wisteria
FE 120	<i>Asplenium bulbiferum</i>	Mother Fern
FE 121	<i>Athyrium niponicum pictum</i>	Japanese Painted Fern
FE 122	<i>Cyathea cooperi</i>	Australian Tree Fern
FE 123	<i>Dicksonia antarctica</i>	Tasmanian Tree Fern
FE 124	<i>Dryopteris erythrosora</i>	Autumn Fern
FE 125	<i>Polystichum munitum</i>	Western Sword Fern
FE 126	<i>Rumohra adiantiformis</i>	Leatherleaf Fern
FE 127	<i>Woodwardia fimbriata</i>	Giant Chain Fern
PE 128	<i>Achillea millefolium</i>	Common Yarrow
PE 129	<i>Acorus gramineus</i> hybrids	Japanese Sweet Flag
PE 130	<i>Agapanthus</i> hybrids	Lily-of-the-Nile (Lily of the Nile)
PE 131	<i>Alstroemeria</i> hybrids	Peruvian Lily (Alstroemeria)

PE 132	<i>Anigozanthus hybrids</i>	Kangaroo Paw
PE 133	<i>Argyranthemum (Chrysanthemum) frutescens</i>	Marguerite
PE 134	<i>Aquilegia hybrids</i>	Columbine
PE 135	<i>Asclepias spp.</i>	Milkweed
PE 136	<i>Bergenia cordifolia</i>	Heartleaf Bergenia
PE 137	<i>Canna hybrids</i>	Canna
PE 138	<i>Carex comans</i>	New Zealand Hair Sedge
PE 139	<i>Centaurea cineraria</i>	Dusty Miller
PE 140	<i>Clivia miniata</i>	Clivia
PE 141	<i>Coreopsis grandiflora</i>	Coreopsis
PE 142	<i>Delphinium elatum</i>	Candle Delphinium
PE 143	<i>Digitalis purpurea</i>	Common Foxglove
PE 144	<i>Ensete ventricosum (Musa ensete)</i>	Abyssinian Banana
PE 145	<i>Erigeron karvinskianus</i>	Mexican Daisy, (Santa Barbara Daisy)
PE 146	<i>Gaillardia x grandiflora hybrids</i>	Gaillardia
PE 147	<i>Gaura lindheimeri 'Siskiyou Pink'</i>	Pink Gaura
PE 148	<i>Geranium sanguineum</i>	Bloody Cranesbill
PE 149	<i>Helleborus orientalis</i>	Lenten Rose
PE 150	<i>Hemerocallis hybrids</i>	Daylily
PE 151	<i>Hesperaloe spp.</i>	Hesperaloe
PE 152	<i>Heuchera sanguinea</i>	Coral Bells, (Alum Root)
PE 153	<i>Hosta hybrids</i>	Plantain Lily
PE 154	<i>Iberis sempervirens</i>	Evergreen Candytuft
PE 155	<i>Juncus patens</i>	California Gray Rush
PE 156	<i>Lamium maculatum</i>	Dead Nettle, (Spotted Nettle)
PE 157	<i>Lavandula angustifolia</i>	English Lavender
PE 158	<i>Leucanthemum x superbum (Chrysanthemum maximum)</i>	Shasta Daisy
PE 159	<i>Limonium perezii</i>	Statice, (Sea Lavender)
PE 160	<i>Liriope gigantea (Ophiopogon jaburan)</i>	Giant Lily Turf
PE 161	<i>Miscanthus sinensis hybrids</i>	Eulalia (Japanese Silver Grass)
PE 162	<i>Nemesia caerulea (fruticans) hybrids</i>	Nemesia
PE 163	<i>Pelargonium x hortorum</i>	Common Geranium, (Garden Geranium)
PE 164	<i>Penstemon x hybrids</i>	Border Penstemon, (Garden Penstemon)
PE 165	<i>Salvia greggii</i>	Autumn Sage
PE 166	<i>Salvia leucantha</i>	Mexican Bush Sage
PE 167	<i>Scabiosa columbaria 'Butterfly Blue'</i>	Pincushion Flower
PE 168	<i>Scaevola aemula</i>	Fan Flower
PE 169	<i>Sutera cordata</i>	Bacopa
PE 170	<i>Tulbaghia violacea</i>	Society Garlic
PE 171	<i>Zantedeschia aethiopica</i>	Common Calla
BP 172	<i>Ageratum houstonianum</i>	Floss Flower
BP 173	<i>Antirrhinum majus</i>	Snapdragon
BP 174	<i>Begonia semperflorens</i>	Bedding Begonia, (Fibrous Begonia)
BP 175	<i>Bellis perennis</i>	English Daisy

BP 176	<i>Calendula officinalis</i>	Calendula, (Pot Marigold)
BP 177	<i>Calibrachoa hybrids</i>	Million Bells
BP 178	<i>Catharanthus roseus (Vinca rosea)</i>	Madagascar Periwinkle, (Vinca)
BP 179	<i>Celosia plumosa</i>	Cockscomb
BP 180	<i>Cosmos bipinnatus</i>	Cosmos
BP 181	<i>Cyclamen persicum</i>	Florists' Cyclamen
BP 182	<i>Dahlia hybrids</i>	Bedding Dahlia
BP 183	<i>Eustoma grandiflorum (Lisianthus russellianthus)</i>	Lisianthus
BP 184	<i>Impatiens walleriana</i>	Impatiens
BP 185	<i>Lobelia erinus</i>	Lobelia
BP 186	<i>Lobularia maritima</i>	Sweet Alyssum
BP 187	<i>Matthiola incana</i>	Stock
BP 188	<i>Papaver nudicaule</i>	Iceland Poppy
BP 189	<i>Pericallis x hybrida (Senecio x hybridus)</i>	Cineraria
BP 190	<i>Petunia hybrids</i>	Petunia
BP 191	<i>Phlox drummondii</i>	Phlox
BP 192	<i>Portulaca grandiflora</i>	Rose Moss
BP 193	<i>Primula x polyantha</i>	English Primrose
BP 194	<i>Salvia farinacea</i>	Mealycup Sage
BP 195	<i>Solenostemon scutellarioides (Coleus x hybridus)</i>	Coleus
BP 196	<i>Tagetes hybrids</i>	Marigold
BP 197	<i>Viola x wittrockiana</i>	Pansy
BP 198	<i>Zinnia elegans</i>	Zinnia
GC 199	<i>Ajuga reptans</i>	Carpet Bugle
GC 200	<i>Aptenia cordifolia</i>	Red Apple
GC 201	<i>Campanula poscharskyana</i>	Serbian Bellflower
GC 202	<i>Drosanthemum floribundum</i>	Rosea Ice Plant
GC 203	<i>Festuca glauca (cineria)</i>	Common Blue Fescue
GC 204	<i>Hedera helix</i>	English Ivy
GC 205	<i>Hypericum calycinum</i>	Aaron's Beard, (Creeping St. Johnswort)
GC 206	<i>Lantana montevidensis (sellowiana)</i>	Trailing Lantana
GC 207	<i>Mentha requienii</i>	Corsican Mint
GC 208	<i>Ophiopogon japonicus</i>	Mondo Grass
GC 209	<i>Osteospermum fruticosum</i>	Trailing African Daisy, (Freeway Daisy)
GC 210	<i>Pachysandra terminalis</i>	Japanese Spurge
GC 211	<i>Pratia pedunculata (Laurentia fluviatilis)</i>	Blue Star Creeper
GC 212	<i>Rosmarinus officinalis</i>	Trailing Rosemary
GC 213	<i>Sagina subulata</i>	Irish Moss
GC 214	<i>Soleirolia (Helxine) soleirolii</i>	Baby's Tears
GC 215	<i>Thymus serpyllum (praecox arcticus)</i>	Woolly Thyme (Mother-Of-Thyme)
GC 216	<i>Trachelospermum asiaticum</i>	Asian Jasmine
GC 217	<i>Verbena peruviana (chamaedrifolia)</i>	Verbena
GC 218	<i>Vinca minor</i>	Dwarf Periwinkle

HP 219	<i>Alpinia vittata</i>	Variegated Ginger
HP 220	<i>Anthurium andraeanum</i>	Anthurium (Spathe Flower)
HP 221	<i>Aspidistra elatior</i>	Cast-iron plant
HP 222	<i>Beaucarnia (Nolina) recurvata</i>	Bottle Palm, Ponytail Palm
HP 223	<i>Caladium bicolor</i>	Fancy-leafed Caladium
HP 224	<i>Chamaedorea elegans</i>	Areca Palm
HP 225	<i>Chlorophytum comosum</i>	Spider Plant
HP 226	<i>Cissus rhombifolia</i>	Grape Ivy
HP 227	<i>Cymbidium hybrids</i>	Cymbidium Orchid
HP 228	<i>Ficus benjamina</i>	Weeping Fig
HP 229	<i>Ficus lyrata</i>	Fiddleleaf Fig
HP 230	<i>Howea forsteriana</i>	Paradise Palm, (Kentia Palm)
HP 231	<i>Kalanchoe blossfeldiana</i>	Kalanchoe
HP 232	<i>Nephrolepis exaltata</i> 'Bostoniensis'	Boston Fern
HP 233	<i>Phalaenopsis hybrids</i>	Moth Orchid
HP 234	<i>Plumeria rubra</i>	Plumeria
HP 235	<i>Rhapis excelsa</i>	Lady Palm
HP 236	<i>Sanseveria trifasciata</i>	Snake Plant, (Mother-In-Law's Tongue)
HP 237	<i>Schefflera (Dizygotheca) elegantissima</i>	Threadleaf (False) Aralia
HP 238	<i>Tillandsia cyanea</i>	Air Plant
HP 239	<i>Tolmiea menziesii</i>	Piggyback Plant
HP 240	<i>Tradescantia zebrina (Zebrina pendula)</i>	Wandering Jew
CS 241	<i>Agave americana</i>	Century Plant
CS 242	<i>Aloe vera</i>	Medicinal Aloe
CS 243	<i>Calandrinia grandiflora</i>	Rock Purslane
CS 244	<i>Crassula spp.</i>	Crassula
CS 245	<i>Echeveria spp.</i>	Echeveria
CS 246	<i>Euphorbia tirucalli</i> 'Sticks on Fire'	Red Pencil Tree
CS 247	<i>Kalanchoe luciae</i> 'Flapjack'	Paddle Plant
CS 248	<i>Opuntia spp.</i>	Opuntia
CS 249	<i>Sedum spp.</i>	Stonecrop
CS 250	<i>Sempervivum spp.</i>	Sempervivum

Buds and Grafts, Tools and Materials Identification. Fifteen (15) items will be selected from the following list:

Buds:

251.	Tee
------	-----

Grafts:

252.	Cleft
253.	Side
254.	Whip

Tools and Materials:

255.	#1 Container
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256.	#15 Container
257.	#5 Container
258.	Action Hoe (ex: Hula Hoe)
259.	Ammonium Sulfate
260.	Atmospheric Breaker
261.	Azalea Pot
262.	Blood Meal
263.	Bone Meal
264.	Broadcast Spreader
265.	Bulb Planter
266.	Carrying Flat
267.	Cell Pack
268.	Class 200 PVC Pipe
269.	Core Aerator
270.	Cut Off Riser
271.	Decorative Bark
272.	Dibble
273.	Drip Emitter
274.	Drop Spreader
275.	Flaring Rose Nozzle
276.	Flex Riser
277.	Forest Humus
278.	Garden Hoe
279.	Garden Rake
280.	Garden Trowel
281.	Gypsum
282.	Hand Cultivator
283.	Hand Pruners (Anvil Type)
284.	Hand Pruners (Bypass Type)
285.	Hedge Shears
286.	Hose End Fogging Nozzle
287.	Hose End Sprayer
288.	Hose Mender
289.	Hose-on Proportioner
290.	Impact Sprinkler
291.	Landscape Rake
292.	Lawn Rake
293.	Liner
294.	Lopper
295.	Manual Valve
296.	Mattock Planter
297.	Minimum/Maximum Thermometer

298.	Nursery Tape
299.	Peat Moss
300.	Peat Pot
301.	Perlite
302.	Pick
303.	Plant Label
304.	Plant/Tree Stake
305.	Pole Pruner
306.	Polyethylene Drip Tube
307.	Pop Up Spray Head
308.	Pot Label
309.	Propagation Flat
310.	Pruning Saw
311.	Root Feeder
312.	Rotor Sprinkler
313.	Round Point Shovel
314.	Sand
315.	Schedule 40 PVC Pipe
316.	Schedule 80 Riser
317.	Screed
318.	Scuffle Hoe
319.	Slow Release Fertilizer (ex: Osmocote)
320.	Soil Probe
321.	Soil Thermometer
322.	Solenoid Valve
323.	Spading Fork
324.	Sphagnum Moss
325.	Spotting Board
326.	Square Point Shovel
327.	Standard Pot
328.	Sulfur
329.	Superphosphate
330.	Swing Arm Riser
331.	Tamp
332.	Tank Sprayer
333.	Trenching Shovel
334.	Vermiculite
335.	Water Breaker

Nursery/Landscape Contest
Identification Answer Sheet for Contests Without Access to JudgingCard

Name: _____ Chapter: _____ Score (x4) _____

1.	26.	51.	76.
2.	27.	52.	77.
3.	28.	53.	78.
4.	29.	54.	79.
5.	30.	55.	80.
6.	31.	56.	81.
7.	32.	57.	82.
8.	33.	58.	83.
9.	34.	59.	84.
10.	35.	60.	85.
11.	36.	61.	86.
12.	37.	62.	87.
13.	38.	63.	88.
14.	39.	64.	89.
15.	40.	65.	90.
16.	41.	66.	91.
17.	42.	67.	92.
18.	43.	68.	93.
19.	44.	69.	94.
20.	45.	70.	95.
21.	46.	71.	96.
22.	47.	72.	97.
23.	48.	73.	98.
24.	49.	74.	99.
25.	50.	75.	100.

PARLIAMENTARY PROCEDURE AND DEBATE

Revised 06/2024

Purpose and Standards

The purpose of this contest is to encourage students to learn to effectively participate in a business meeting and to assist in the development of their leadership skills.

Foundation Standards: 2.0 Communications: 2.4 Listening and Speaking, 1.1, 1.8, 2.2. 9.0 Leadership and Teamwork, 9.1, 9.2, 9.3, 9.6.

Objectives – Students will be able to:

- Use parliamentary procedure to conduct an orderly and efficient meeting.
- Demonstrate knowledge of parliamentary law.
- Present a logical, realistic, and convincing discussion.
- Record complete and accurate minutes.

Contestants

A team representing a region will consist of six members and two designated alternates listed at the state and national levels from the same chapter. The alternates are not permitted to observe competing teams but may observe their own team. The alternates may replace a regular team member prior to the start of the event.

Tie Breaker

Tiebreakers for teams will be:

1. The team's total presentation score.
2. The team's average score on the written test, and
3. The team's total score for questions.

Rules

- I. Competition shall be at two levels. There shall be a novice contest and a varsity contest. Seventh and 8th grade members are eligible to compete in the novice contest. Ninth or 10th grade members are also eligible to compete in the novice contest but are restricted to competing one year in either 9th or 10th grade. For a 10th grade member to be eligible to participate in the novice contest they must not have taken part in a parliamentary procedure contest beyond the chapter level as a 9th grader. Varsity team members may be from any grade level. A member of the novice team may be moved to the varsity team at any time but loses his/her novice standing after participating above the chapter level.
- II. A member of a state winning novice team does not lose his/her eligibility to compete on an advanced team in subsequent years. Rules and scoring procedures shall be the same for both levels of participation, with the following exception. The five required motions for novice teams will be selected from the following list of 12 motions. Postpone Indefinitely, Amend, Refer to Committee, Postpone Definitely, Limit or Extend Limits of Debate, Previous Question, Lay on the Table, Division of Assembly, Object to the Consideration of the Question, Parliamentary Inquiry, Point of Order and Appeal. A novice team can use all 24 motions allowed in the advanced contest if they choose. The five required motions would come from the above list.
- III. If an unassigned member makes a required motion prior to the assigned member, it will be counted as an omission at the bottom of the team scorecard. A member's required motion will be counted as an addition motion for another member.

- IV. Each section will determine how many chapter teams may participate at the section level. Each region will determine how many sectional teams may compete at the regional level. Participation at the state level is limited to a maximum of four (4) teams per region.
- V. The event will have three phases: written examination, a ten-minute team presentation of parliamentary procedure, and oral questions following the presentation.
- VI. The advisor shall not consult with the team after the event begins.
- VII. All participants must bring their own pencils (a minimum of two No. 2 pencils).
- VIII. One week prior to the date of State FFA Finals, or immediately after the last region has had their regional contest (whichever comes later), all participating coaches, contest coordinators, and judges will hold Zoom meeting outlining the aspects of the contest, and allow for questions regarding contest layout or judging inquiries

Event Format

- I. Written Test (100 points)
 - A. A written test will consist of 25 objective-type multiple-choice questions covering basic parliamentary law as related to the permissible motions of the event and pertaining to minutes. Questions will come from *Dunbar's Manual of Parliamentary Procedure Test Questions*. Thirty minutes will be allowed to complete the test. Each participant may score a maximum of 100 points. The average score of the six team members will be used to compute the total team score in each round.
- II. Oral Questions (100 points)
 - A. Each of the six team members will be asked a planned question relating to their assigned motion. No one may step forward to help correct answers on the first six questions. These questions will come from Dunbar's Parliamentary Procedure Oral Questions Challenge Questions Bank. Following these six questions, the judges will have two additional minutes to ask questions for clarification of the presentation, after which time will be called.
- III. Presentation (750 points)
 - A. Teams will be seeded in the round based on test scores.
 - B. The event official will assign the main motion on an index card. This is to be the first item of business on the agenda. All teams in each round will use the same main motion. It is suggested that this main motion should be the first motion presented.
 - C. The event officials will select two subsidiary, two incidental and one privileged or unclassified motion from the list of permissible motions used in the advanced contest. The officials will select no more than two debatable subsidiary motions OR non debatable subsidiary motions, and the remaining motions from the list of motions found in "Event Rule #1. These motions will be on an index card and will be randomly assigned to each team member. All teams in each round will be assigned the same motions.
 - D. Team members will have one minute to review the main motion and the motions to be demonstrated and to identify his/her motion (which may be noted by bolding, underlining or highlighting).
 - E. There shall be no limitation to the number of subsidiary, incidental, privileged and unclassified motions demonstrated except that the team must demonstrate at least two subsidiary, two incidental and one privileged or unclassified motion designated by the official in charge. Each member of the team must demonstrate the motion assigned to them before any other team member demonstrates it. Once a motion is presented by a member, it will result in no points if a member attempts to use it again during the same demonstration. The team may use more than one main motion as long as it pertains to the assigned main motion.

- F. If the event officials designate the privileged motion “call for the orders of the day,” as a motion to be demonstrated, an alternate motion not pertaining to the main motion may be used to facilitate the correct demonstration of the motion.
- G. Motions that bring a question again before the assembly if the officials in charge designate Take from the Table, Rescind or Reconsider as a motion to be demonstrated, a scenario will be included on the event card. These motions shall not be used unless listed on the event card as a required motion.
- H. The demonstrating team shall assume that a regular chapter meeting is in progress, and the chairperson shall start the presentation by saying, “Is there any further business that should be presented to the chapter at this time?” A team member will then move the main motion assigned to the team.
- I. The state event will have three rounds: a preliminary round, a semifinal round and a final round. The preliminary round will have four sections. A section shall be made up of up to six teams. Three teams will advance from each of the sections for a total of 12 teams that will advance to the semifinal round. The semifinal round is composed of two sections with six teams in each section. Three teams in each semifinal section will advance to the final round of six teams. Teams for quarter and semi-final rounds will be seeded according to their test score (Form 5) and will then draw for order of appearance within their seed group. See Form 5.
- J. Each team will address a local chapter item of business selected from nationally or state recognized FFA activities (i.e. National Chapter Food, Food for America, PALS, Program of Work activities, Proficiency Awards and National FFA Convention – consult the Official FFA Manual and handbook). The motion will be specific and must be stated and moved as it is written.
- K. Time Limit and Deductions - A team shall be allowed 11 minutes in which to demonstrate knowledge of parliamentary law. A timer will be displayed so that each member can see. If a timer is not available an 8 minute and 10 minute warning sign will be shown to the team. A deduction of two points/second for every second over 11 minutes will be assessed. Example: 11:05 = 10-point deduction. A timekeeper will furnish the time used by each team at the close of the event.
- L. Time Penalties

	Points		Points
Minutes	Deducted	Minutes	Deducted
11:00	0	11:06	12
11:01	2	11:07	14
11:02	4	11:08	16
11:03	6	11:09	18
11:04	8	11:10	20
11:05	10	11:11	22

M. Sample Motion Card

Main Motion: I move to start the Food for America program on December 1.

Required Motions: Lay on the Table Amend
 Appeal Suspend the Rules
 Reconsider

- IV. The judges will use Form 2 to score the event. Once all scores are totaled on the scorecards, the teams will be given points as outlined on the tabulations sheet, Form 4 or like computer tabulations program, by the judges. These points will be added to determine teams advancing and semifinal and final placings. The two teams with the highest number of points based on rating score will advance to the next round. The judges will use Form 4 or like tabulations program to determine teams advancing and final placing.
- V. Recommended References
 - A. The official text will be the latest revised edition of Robert's Rules of Order available as of January 1 of the competitive year.
 - B. Additional references may include *FFA New Horizons* magazine, the *Official FFA Manual*, the *FFA Student Handbook* and the *Official Chapter Secretary's Book*.

Judges' Scoring Guidelines

I. Guidelines for Scoring Discussion

A. Judges for the parliamentary procedure event should observe the following guidelines.

1. It is essential that each judge observe and maintain consistent criteria in scoring discussion for the duration of the event.
2. Judges must overlook personal opinions and beliefs and score discussion in an unbiased manner. All discussion should be scored at the time it is delivered.
3. Characteristics of effective discussion include:
 - a) completeness of thought,
 - b) logical reasoning,
 - c) clear statement of speaker's position
 - d) conviction of delivery, and
 - e) concise and effective statement of discussion.
4. A suggest grading scale is as follows:

Excellent	16-20 points
Good	11-15 points
Average	06-10 points
Poor	01-05 points

- a) An excellent discussion would be extremely unusual and would be characterized by a truly stirring delivery and brilliance in terms of information provided and/or suggestions for action offered.
 - b) Good discussion would be characterized by effective delivery, substance, creative and visionary thought delivered in a convincing and compelling manner.
 - c) An example of an average discussion might be: "I think this is a very significant motion that should be passed for the following reasons (new, informative and logically related). For these reasons, I urge everyone to vote for this motion."
 - d) Poor discussion would be characterized by a lack of effective delivery, poor grammar, reasoning and substance. An example might be: "I think this is a good idea."
5. Only the highest four debates for each participant in the demonstration may earn a score. However, an individual may never earn more than 60 points in a given presentation. Furthermore, no more than 20 points may be earned during one recognition by the chair.
 6. Debate scores will be given for debates on all motions unless the said motion to which it is attached is not germane.

II. Guidelines for Scoring the Chair

- A. Ability to preside-handling of motions, keeping members informed, use of the gavel, distribution of discussion (80 points)
- B. Leadership-stage presence, poise, self-confidence, politeness and voice. (20 points).

III. Guidelines for Contest Officials

- A. All judges will participate in a contest orientation from the contest coordinator, or appropriate State Staff, before the presentation judging begins, outlining the motions for each contest and how they are to be scored. If a judge should encounter a questionable demonstration, the contest coordinator, or appropriate State Staff, would be consulted to determine a consistent scoring for that situation.

- B. Use of qualified, pre-determined judges to judge the finals rounds and even some of the semi-finals rounds of the event.
- C. At the conclusion of the State FFA Parliamentary Procedure Finals Contest, all results will be given to the coaches and their teams, as well as posted on the website or printed with points and ranking of teams as listed by judges anonymously.

EVENT SCORING

Phase	Breakdown	Section	Total
	Of Points	Points	Points
Written Test [Average score of six members (6x100/6)]			100
Oral Questions			100
12 points possible for each member's question	72		
Questions in the additional two minutes	28		
Presentation			750
Total for five members on the floor		500	
Required motion presentation	20		
Discussion (max. Of 20 pts./Discussion)	60		
Additional motions made (including main and alternate main)	20		
Chair		100	
Ability to preside	80		
Leadership	20		
General Effect of Team		150	
Conclusion of the team	50		
Discussion	50		
Teams' voice, poise and expression	50		

Deduction for parliamentary mistakes: 5-20 pts. Per mistake.

If a team member omits their assigned motion, there will be a 50-point deduction.

Deduction for overtime: A deduction of 2 points will be made for every second over 11 minutes.

TOTAL POINTS POSSIBLE

950

**Chart of Permissible Motions for the
California FFA Parliamentary Procedure Contest**

Motion	Debate	Amend	Vote Required	Second	Re-consider
Privileged					
Fix time to which to adjourn	No	Yes	Majority	Yes	Yes
Adjourn	No	No	Majority	Yes	No
Recess	No	Yes	Majority	Yes	No
Question of privilege	No	No	None	None	No
Call for orders of the day	No	No	2/3 not to follow	None	No
Incidental					
Appeal	Yes/No	No	Majority	Yes	Yes
Point of order	No	No	None	No	No
Parliamentary inquiry	No	No	None	No	No
Suspend the rules	No	No	2/3	Yes	No
Withdraw a motion	No	No	Usually none	No	No
Object consideration of question	No	No	2/3	No	Yes, negative vote only
Division of the question	No	Yes	Majority	Yes	No
Division of the assembly	No	No	No	No	No
Request for Information (Point of Information)	No	No	None	No	No
Subsidiary					
Lay on table	No	No	Majority	YES	No
Previous question	No	No	2/3	Yes	Yes before voting
Extend or limit debate	No	Yes	2/3	Yes	Yes
Postpone definitely	Yes	Yes	Majority	Yes	Yes
Refer to committee	Yes	Yes	Majority	Yes	Yes
Amend	Yes	Yes	Majority	Yes	Yes
Postpone indefinitely	Yes	No	Majority	Yes	Yes vote only
Main motion	Yes	Yes	Majority	Yes	Yes
Unclassified					
Take from table	No	No	Majority	Yes	No
Reconsider	No/Yes	No	Majority	Yes	No
Rescind	Yes	Yes	Majority, 2/3 if not in writing	Yes	Negative vote only

Team Name _____

Circle One

Form 2

Judges Name _____

Novice Advanced

MEMBER SCORES

CHAIR	REQ. MOTION	20 PTS.	ALL DEBATE SCORES	TOP 4 DEBATE SCORE TOTAL (60PTS.)	ADD MOTION	20 PTS.	REQ QUESTIONS (12 PTS.)	MEMBER TOTAL (112 PTS.)
1								
2								
3								
4								
5								

CHAIR SCORES

ABILITY TO PRESIDE		80 PTS. MAX	NOTES:	SUBTOTAL (112 PTS.)
LEADERSHIP		20 PTS. MAX		
REQUIRED QUESTIONS		12 PTS. MAX		

TEAM SCORES

CONCLUSION		50 PTS. MAX	NOTES:	SUBTOTAL (178 PTS.)
DEBATE LOGIC		50 PTS. MAX		
VOICE, POISE		50 PTS. MAX		
ADDITIONAL QUESTIONS		28 PTS. MAX		

DEDUCTIONS

OMMISSIONS	50 PTS. FOR EACH REQ. MOTION	NOTES:	
ERRORS	5-20 PTS. / ERROR		
TIME DEDUCTIONS	2 PTS. PER SECOND BEYOND 11 MINUTES		

TEST SCORE	100 PTS. MAX	AVERAGE SCORE _____ X 4	
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TEAM TOTALS	950 PTS. MAX	
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NOTES:

Tabulation Sheet for Ranking Teams

Form 4

Final

Team	Rankings for Highest-Scoring Team			Ranking
	Judge 1	Judge 2	Judge 3	
Team 1				
Team 2				
Team 3				
Team 4				
Team 5				
Team 6				
Team 7				
Team 8				
Team 9				

Ranking	Points	Ranking	Points
1 st	9	6 th	4
2 nd	8	7 th	3
3 rd	7	8 th	2
4 th	6	9 th	1
5 th	5		

Form 5

First Round – Quarter-Finals

The test given the night before the contest will be used to seed the quarter final rooms for teams, similar to the National Parliamentary Procedure Contest.

<i>Group A</i>	<i>Group B</i>	<i>Group C</i>	<i>Group D</i>
1 st	2 nd	3 rd	4 th
8 th	7 th	6 th	5 th
9 th	10 th	11 th	12 th
16 th	15 th	14 th	13 th
17 th	18 th	19 th	20 th
24 th	23 rd	22 nd	21 st

Second Round – Semi-Finals

<i>Group E</i>	<i>Group F</i>
1 st	2 nd
4 th	3 rd
5 th	6 th
8 th	7 th
9 th	10 th
12 th	11 th

Team Progression Chart	
Preliminary Round	4 sections of 6 teams of 6 participants
Semifinal Round	2 sections of 6 teams of 6 participants
Final Round	1 section of 6 teams of 6 participants

POULTRY JUDGING

Revised 01/24

Purpose and Standards

The poultry Career Development Event seeks to effectively prepare the students for jobs in the poultry workforce. Workers seeking careers in poultry must develop a high degree of knowledge and must develop the ability to solve problems in the poultry industry. The contest blends practical hands-on experiences with a basic knowledge of the poultry industry required for careers in the poultry field.

Foundation Standards: Mathematics Algebra 10, 13, 15, Problem Solving and Critical Thinking 5.1, 5.3, Health and Safety 6.2, 6.4, 6.5, Ethics and Legal Responsibility 8.3, Leadership and Teamwork 9.1, 9.2, 9.3, 9.6, Science 1.a, 1.c, 1.d, 1.l, 1.m, Writing 2.6, Listening and Speaking 1.1, 2.2, 2.3, Career Planning and Management 3.1.

Animal Science Pathway: D1.0-1.3, D2.2-2.3, D3.0-3.2, D4.1, D5.1, 5.3, 5.5, D6.1-6.7, D8.0-8.3, D9.0-9.4, D10.1, D12.1-12.5

Contestants

Teams consist of four members, with all four individual scores counting as the team score. All team members are eligible for individual awards.

Classes

There will be 14 classes judged, including:

Part I - Live Poultry		Individual Points	Team Points
Class 1	A Class of four Market Broilers.	50	200
Class 2	A class of four Egg-type hens.	50	200
Class 3	Oral reasons for Class 1 and Class 2.	50	200
Part II - Ready-to-Cook Poultry			
Class 4	Ten chicken and/or turkey carcasses and/or parts for quality grading.	50	200
Class 5	Four RTC carcasses for placing.	50	200
Class 6	Oral reasons on Class 5.	50	200
Part III – Shell Eggs			
Class 7	Ten white-shelled <u>chicken</u> eggs for USDA interior quality grading.	50	200
Class 8	Ten chicken eggs for exterior quality grading.	50	200
Class 9	Written factors on Class 8.	50	200
Part IV - Further Processed Poultry			
Class 10	Boneless further Processed Poultry Meat Products.	50	200
Class 11	Bone-In further Processed Poultry Meat Products.	50	200
Class 12	Ten poultry carcass parts for identification.	50	200
Part V – Poultry Production and Management			
Class 13	A written examination on poultry management.	100	400
Class 14	Team Activity		75
TOTAL		700	2875

Tie Breaker

1. The team or individual scoring the highest total reasons score will be the winner.
2. The team or individual scoring the highest management exam score will be the winner.
3. The team or individual scoring the highest on Sub Contest 1 - Live Birds will be the winner.

Sub Contest Definitions and Tie Breakers

1. **Sub Contest 1 - Live Birds** consists of classes 1, 2, and 3
Tie Breakers
 - a. The highest score individually or as a team from class 3 will be the winner.
 - b. The highest score individually or as a team from class 2 will be the winner.
2. **Sub Contest 2 - Ready to Cook** consists of classes 4, 5, and 6
Tie Breakers
 - a. The highest score individually or as a team from class 6 will be the winner.
 - b. The highest score individually or as a team from class 5 will be the winner.
3. **Sub Contest 3 - Shell Eggs** consists of classes 7, 8, and 9
Tie Breakers
 - a. The highest score individually or as a team from class 7 will be the winner.
 - b. The highest score individually or as a team from class 8 will be the winner.
4. **Sub Contest 4 - Further Processing** consists of classes 10, 11, and 12.
Tie Breakers
 - a. The highest score individually or as a team from class 11 will be the winner.
 - b. The highest score individually or as a team from class 10 will be the winner.
5. **Sub Contest 5 - Management Exam** consists of class 13
Tie Breakers
 - a. The contest site will chose three pre-determined tie breaker questions from the exam.

Rules

- I. No two students from one team shall judge the same class at the same time. Printed cards will be given to each contestant upon which placings will be written. The cards will be collected after each class is judged, except on classes where oral reasons are given. On the reasons classes, students shall hand the card to the judge before giving reasons.
- II. Unnecessary rough handling of the birds will disqualify the contestant.
- III. All contestants shall be allowed two minutes to look over birds in coops prior to handling and 13 minutes to place birds. All other classes will be 15 minutes long.
- IV. Using notes during the presentation of oral reasons is not recommended and a loss of points will occur.
- V. Electronic calculators may be used. Only those having the following functions – addition, subtraction, multiplication, division, equal, percent, square-root, +/- key, and one memory register.
- VI. The Team Activity (Class 14) will be the first rotation of the contest. All other classes will follow.

Suggested Instructions for Judging Classes

Procedures

The USDA official for the meats classes are aware and adhere to our Curricular Code for the Poultry Contest (i.e. receive a copy of the Code before the day of the contest), as well as having a copy of the Curricular Code and the latest edition of the Texas A&M Poultry Manual available for reference the day of the contest. The USDA representative is to be included in the setting up and placing of the Ready to Cook Poultry Classes. The Texas A&M Poultry Manual is to be the official guide for all grading classes.

The classes will be monitored by a contest advisor throughout the contest to make sure products maintain their intended grade (i.e. Any internal eggs that are replaced be checked by the contest advisor – as well as checking processed meats, external eggs, parts, carcasses, etc.) from the start of the contest throughout the judging completion.

The contest advisor will be available throughout the contest in case of any errors that may have occurred may then be corrected at tabulations in order to provide for a more outstanding State Finals Poultry Contest. The top three coaches from the previous year's state contest meet with the contest advisor prior to completion for a contest review.

Class 1 A class of four Market Broilers.

The Market Broilers will be the same age (approximately 8 weeks old), the same strain, and raised under the same environmental conditions. A form of identification will be used to identify each bird. Broiler breeders may or may not have trimmed beaks. The participant may touch the birds but only inside the cages and using proper handling procedures.

A set of oral reasons (Class 3) is required for Class 1 or Class 2. The four birds selected to keep (and the four birds to be culled) will be determined by using the broiler breeder selection criteria discussed in the "Poultry Science Manual for National FFA Career Development Events" by Instructional Media Service, Texas A&M University.

Class 2 A class of four Egg-type hens.

Egg-type hens will be used in Class 2 (a placing class of four birds). The hens will be the same age, the same strain and raised under the same environmental conditions. A form of identification will be used to identify each bird. Hens may or may not have trimmed beaks. The participant may touch the birds inside and outside the cages using proper handling procedures.

Competence in identifying egg-type hens with superior production characteristics is critical to a successful egg production enterprise. Egg-type hens will have characteristics indicating past production. Thus, the emphasis should be on the number of eggs laid by each hen. Body characteristics and qualities discussed in the "Poultry Science Manual" will govern the final placing of the hens.

Class 3 Oral Reasons on Class 1 or 2.

- Class 4** **Ten chicken broilers and/or turkey carcasses and/or parts for grading.**
This class may consist of any combination of carcasses and parts (for example, there may be six broiler carcasses, three broiler parts, and one turkey carcasses, or there may be five broiler carcasses and five turkey carcasses). Each broiler carcass will weigh more than two pounds but not more than six pounds. Each turkey carcass will weigh more than six pounds but not more than sixteen pounds. Carcasses and parts are to be graded based on the “Poultry Science Manual for National FFA Career Development Events” by Instructional Media Services, Texas A&M University.
- Class 5** **Four RTC carcasses for placing.**
This class is a placing class of four ready-to-cook turkey hens and/or toms. Each carcass will weigh more than six pounds but not more than sixteen pounds. The carcasses are to be placed after predetermining their USDA quality grades based on the standards provided in the “Poultry Science Manual.” USDA quality grades are A, B, and C. NG designates non-gradable. More than one carcass of the same USDA quality grade may be in the class. **IMPORTANT:** Feathers, pin feathers, hair, preen glands, visible scales, excess skin and medullary bone are NOT considered in this class. The carcasses should be displayed on shackles. Participants may not touch the carcasses. The shackles may be rotated for viewing the carcasses.
- Class 6** **Oral reasons on Class 5.**
USDA criteria and terminology is to be used when presenting reasons.
- Class 7** **Ten white-shelled chicken eggs for USDA interior quality grading.**
Interior quality factors described in the “Poultry Science Manual” are the basis for evaluation. USDA quality grades are AA, A, B and Loss. The characteristics of a Loss egg are listed in the “Poultry Science Manual.” Participants may handle the eggs for candling purposes.
- Class 8** **Ten chicken eggs for exterior quality grading.**
The egg shells will be white in color. Evaluation of eggs will be based on soundness, cleanliness, and uniformity in color and size of the visible portions of the eggs based on USDA Standards. Participants will not be permitted to touch the eggs or the cartons.
- Class 9** **Evaluation criteria on Class 8**
There are defects listed in the “Poultry Science Manual – Summary of Evaluation Criteria Used to Substantiate Placings of Shell Eggs.”
- Class 10** **Boneless further Processed Poultry Meat Products**
Each participant will determine written quality factors for a class of ten boneless further processed poultry meat products (i.e. precooked, poultry meat patties, tenders, nuggets, or other boneless products). Criteria for evaluation will include coating defects, color defects, consistency of shape/size, broken and/or incomplete

products, cluster/marriages, and evidence of foreign material. Participants may not touch any product; doing so will result in disqualification.

Class 11 Bone-In further Processed Poultry Meat Products

Each participant will determine written quality factors for a class of ten – further processed poultry meat products (i.e. precooked, bone-in wings or other bone-in poultry meat products). Criteria for evaluation will include coating defects, color defects, consistency of size, broken products, miss-cut products, mixed products, and evidence of foreign material. Participants may not touch any product; doing so will result in disqualification.

Class 12 Ten poultry carcass parts for identification.

Participants will not be permitted to touch the poultry parts. Officials will randomly select ten parts for those used in the chicken processing and merchandising industries. Twenty-nine parts are described in the “Poultry Science Manual.”

Class 13 A written examination on poultry management.

The written exam will consist of 25 multiple choice items, of which no more than five will require mathematical calculations. Each question will be valued at 4 points for a total of 100 points possible.

Class 14 Team Activity

A team activity valued at 75 points (15 multiple choice questions valued at 5 points per question) involving a written scenario that the entire team makes a decision on. Information will be given to the entire team about a specific area of poultry (the same area the test covers based on the year stated in the Poultry Science Manual produced by Texas A&M). Teams will review information, a management problem or problems and use a logical process to solve the identified questions. 30 minutes will be given for this team activity. The Team Activity is to occur at the beginning of the contest.

Reference Materials

7th Edition Poultry Science Manual: Instructional Materials Service (IMS) Texas A&M University, 2588 TAMUS, College Station, TX 77843-2588; Telephone (979) 845-6601, FAX (979) 845-6608; ims@tamu.edu

PREPARED PUBLIC SPEAKING

Revised 6/2024

Purpose and Standards

The purpose of the Prepared Public Speaking Career Development Event is to foster and develop the speaking abilities of FFA members as well as develop their self-confidence and contribute to their advancement in inter-personal skill attainment and leadership development.

Foundation Standards: Communications – Reading 2.0, 2.1, 2.2, 2.3, 2.4, 2.6, 2.7, 2.8. Writing 1.1, 1.2, 1.3, 1.5, 1.6, 1.7, 1.8, 2.3, 2.6. Written and Oral English Language Conventions 1.1, 1.2, 1.3. Listening and Speaking 1.1, 1.8, 2.2, 2.3.

Contestants

- I. Each section will determine how many chapter members may participate at the sectional level. Each region will determine how many sectional participants may compete at the regional level. Participation at the state level is limited to the top 50% of those that participate in the regional contest (or major portion thereof), with a maximum of four (4) per region.
- II. This contest will be open to students less than 21 years of age who were regularly enrolled in agricultural education during the current calendar year or who are still in high school but have completed all the agricultural education offered. When selected, contestants must be active members of chartered FFA chapters in good standing with the State Association and the National Organization.

Tie Breaker

In case of a tie, that individual who has the highest grand total score shall have prior rating.

Rules

- I. General Plan
 - A. The preliminary contests are local, sectional and regional in nature. All regional and state contests must follow the rules of the National Public Speaking Contest. Judges will not question participants at the local or sectional level without prior agreement among the agriculture instructors concerned.
- II. Eligibility
 - A. Each contestant's written production will be the result of their own efforts. It is expected that they will take advantage of all available training facilities in the local school in developing their speaking and writing ability. Facts and working data may be secured from any source.
 1. Regional and state contestants are required to file with their regional supervisor, through their teachers of vocational agriculture (on the dates specified by the regional supervisor), the following materials:
 - a. A double spaced typewritten copies of the speech on 8 1/2 x 11" white paper with cover page that gives the speech title, participant's name, chapter and date (unless otherwise directed by the regional supervisor). The body of the manuscript will have 1" margins. Font size must be 12 point using Arial or other sans serif font. Do not bind, but place a staple in the upper left corner. The bibliography will follow APA style manual for

- F. At the time of the contest the judges will be seated in different sections of the room in which the contest is held. They will score each contestant upon delivery of the production, using the score sheet provided.
 - G. Each judge shall formulate and ask questions. Questions shall pertain directly to the speaker's subject. Questions containing two or more parts should be avoided. Judges will score each contestant on his/her ability to answer all questions asked by judges.
 - H. When all contestants have finished speaking, each judge will total his/her score on composition and delivery for each contestant. The timekeeper's record will be used in computing the final score for each contestant.
 - I. Prior to the State Finals contest, the content and composition of all manuscripts will be judged by three (3) qualified individuals using the appropriate score sheet. Manuscript scores will be averaged and provided to the presentation judges after they have scored the oral presentation.
 - J. Contestants shall be ranked in numerical order on basis of final score to be determined by each judge without consultation with each other. Judges may ask each other to clarify a given question response from speakers prior to ranking the contestants.
 - K. The judges' ranking on each contestant then shall be added by the contest superintendent in view of the three judges and the winner shall be the contestant whose total ranking is the lowest. Other placings shall be determined in the same manner (low points score method of selection). In case of a tie, that individual who has the highest grand total score shall have prior rating.
 - L. Contestants are not permitted to use any type of prop, chart, graph, computer, visual aide and/or musical playing instrument/equipment during their speech.
- VI. Awards
- A. Awards will be presented to contestants by the organization of the Future Farmers of America and the Future Farmers of America Foundation, Inc., through the intercession of the contest administrator concerned.
- VII. Dissipation of Scores
- A. Students and advisors should have an opportunity to see all score cards, a final scorecard, or a judges comment card to enable a better understanding of what the judges did and did not like.

Explanation of Score Sheet Points

- I. Part I - For Scoring Content and Composition
 - A. Content of the manuscript includes:
 1. Purpose
 2. Content
 3. Use of References
 4. Quality of References
 5. Use of Most Recent Edition of the American Psychological Association (APA) Manual
 - B. Composition of the manuscript includes:
 1. Organization
 2. Feel and Tone
 3. Sentence Structure
 4. Word Choice
 5. Grammar, Spelling, Writing Mechanics
- II. Part II - For Scoring Delivery of Production
 - A. Voice includes:

1. Quality
 2. Pitch
 3. Articulation
 4. Pronunciation
 5. Force
- B. Stage presence includes:
1. Personal appearance
 2. Poise and body posture
 3. Attitude
 4. Confidence
 5. Personality
 6. Ease before audience
- C. Power of expression includes:
1. Fluency
 2. Emphasis
 3. Directness
 4. Sincerity
 5. Communicative ability
 6. Conveyance of thought and meaning
 7. Memorization
- D. Response to questions includes:
1. Ability to satisfactorily answer the questions of the speech which are asked by the judges indicating originality, familiarity with subject and ability to think quickly.
(Judges should meet prior to the contest to prepare and clarify the questions to be asked.)
- E. General effect includes:
1. Extent to which the speech was interesting, understandable, convincing, pleasing and held audience's attention.

Prepared Public Speaking CDE Manuscript Rubric – 250 points

Evaluation Criteria	Very strong evidence skill is present 5-4	Moderate evidence skill is present 3-2	Strong evidence skill is not Present 1-0	Weight	Total Score
Manuscript Content					100 possible points
Topic is important and appropriate					50 points
Current topic of interest	Topic is current or a strong evidence of personal involvement in the topic is expressed.	Topic is dated or some evidence of personal involvement has been expressed.	Topic is irrelevant for the times or unrelated to personal involvement.	x5	
Topic is relevant and within the scope of identified subjects in the CDE guide	Topic addresses an issue facing the industry of agriculture.	Topic addresses an issue that may show some relationship to the industry of agriculture.	Topic addresses an issue that is unrelated to the industry of agriculture.	x5	
Suitability of materials used					50 points
Validity of resources	Resources are from reputable sources.	Resources are from questionable sources.	Resources are from unreliable sources.	x5	
Accuracy of content	Manuscript reflects accurate statements from resources.	Manuscript reflects some misinterpretation of resource materials.	Manuscript does not reflect accurate statements based on the resources provided.	x5	
Total points for this section					
Manuscript Composition					150 possible points
Organization and development of content					75 points
Examples	Examples are vivid, precise and clearly explained. Examples are original, logical and relevant.	Examples are usually concrete, sometimes needs clarification. Examples are effective, but need more originality or thought.	Examples are abstract or not clearly defined. Examples are sometimes confusing, leaving the listeners with questions.	x5	
Being detail oriented	Is able to stay fully detail oriented. Always provides details which support the issue; is well organized.	Is mostly good at being detail oriented. Usually provides details which are supportive of the issue; displays good organizational skills.	Has difficulty being detail oriented. Sometimes overlooks details that could be very beneficial to the issue; lacks organization.	x5	
Accomplishment of purpose	The style chosen has obviously been well thought out based on the specific audience.	Most language is appropriate for the intended audience.	Some language used might be confusing for some audiences.	x5	
Grammatical accuracy					35 points
Spelling/grammar (sentence structure, verb agreement, etc.)	Spelling and grammar are extremely high quality with 2 or less errors in the document.	Spelling and grammar are adequate with 3-5 errors in the document.	Spelling and grammar are less than adequate with 6 or more errors in the document.	x7	
Manuscript written according to event format rule #1	5 points		0 points		40 points
Double-spaced on 8½"x 11" white bond paper				x2	
12 point Arial or sans serif font					
1" margins in the body of the paper.				x2	
Cover page with speech title, participant's name, Chapter and year.					
APA style for in-text citations and list of references as found on Purdueowl.com online				x4	
Total points for this section					
Grand Total Points					

Prepared Public Speaking CDE Presentation Rubric – 450 points

Indicators	Very strong evidence skill is present 5-4	Moderate evidence skill is present 3-2	Strong evidence skill is not present 1-0	Points Earned	Weight	Total Score
Oral Communication						250 possible points
A. Speaking without hesitation	Speaks very articulately without hesitation. Never has the need for unnecessary pauses or hesitation when speaking.	Speaks articulately, but sometimes hesitates. Occasionally has the need for a long pause or moderate hesitation when speaking.	Speaks articulately, but frequently hesitates. Frequently hesitates or has long, awkward pauses while speaking.		x 10	
C. Tone	Appropriate tone is consistent. Speaks at the right pace to be clear. Pronunciation of words is very clear and intent is apparent.	Appropriate tone is usually consistent. Speaks at the right pace most of the time, but shows some nervousness. Pronunciation of words is usually clear, sometimes vague.	Has difficulty using an appropriate tone. Pace is too fast; nervous. Pronunciation of words is difficult to understand; unclear.		x 15	
D. Command of Audience	Speaker uses power of presentation to engage and captivate the audience with the message of the speech.	Speaker presents speech as mere repeating of facts and speech comes across as a report	Speaker bores the audience with lack of enthusiasm and power to deliver the speech.		x 15	
E. Connect and articulate facts and issues	Exemplary in connecting facts and issues and articulating how they impact the issue locally and globally. Possesses a strong knowledge base and is able to effectively articulate information regarding related facts and issues.	Sufficient in connecting facts and issues and articulating how they impact the issue locally and globally. Possesses a good knowledge base and is able to, for the most part, articulate information regarding related facts and current issues.	Has difficulty with connecting facts and issues and articulating how they impact the issue locally and globally. Possesses some knowledge base but is unable to articulate information regarding related facts and current issues.		x 10	
Non-verbal Communication						200 possible points
A. Attention (eye contact)	Eye contact constantly used as an effective connection. Constantly looks at the entire audience (90-100% of the time).	Eye contact is mostly effective and consistent. Mostly looks around the audience (60-80% of the time).	Eye contact does not always allow connection with the speaker. Occasionally looks at someone or some groups (less than 50% of the time).		x 10	
B. Mannerisms	Does not have distracting mannerisms that affect effectiveness. No nervous habits.	Sometimes has distracting mannerisms that pull from the presentation. Sometimes exhibits nervous habits or ticks.	Have mannerisms that pull from the effectiveness of the presentation. Displays some nervous habits – fidgets or anxious ticks.		x 10	
C. Gestures	Gestures are purposeful and effective. Hand motions are expressive and used to emphasize talking points. Great posture (confident) with positive body language.	Usually uses purposeful gestures. Hands are sometimes used to express or emphasize. Occasionally slumps; sometimes negative body language.	Occasionally gestures are used effectively. Hands are not used to emphasize talking points; hand motions are sometimes distracting. Lacks positive body language; slumps.		x 10	
D. Well-poised	Is extremely well-poised. Poised and in control at all times.	Usually is well-poised. Poised and in control most of the time; rarely loses composure.	Isn't always well-poised. Sometimes seems to lose composure.		x 10	
			TOTAL			

Prepared Public Speaking CDE Response to Questions Rubric – 300 points

Indicators	Very strong evidence skill is present 5 - 4	Moderate evidence skill is present 3 - 2	Strong evidence skill is not present 1 - 0	Points Earned	Weight	Total Score
Response to Questions						300 possible points
A. Speaking unrehearsed (question and answer)	Speaks unrehearsed with comfort and ease. Is able to speak quickly with organized thoughts and concise answers.	Speaks unrehearsed mostly with comfort and ease, but sometimes seems nervous or unsure. Is able to speak effectively, has to stop and think, and some- times gets off focus.	Shows nervousness or seems unprepared when speaking unrehearsed. Seems to ramble or speaks before thinking.		x 10	
B. Demonstrates knowledge of topic	Answer shows thorough knowledge of the subject of the speech. Supports answer with strong evidence.	Answer shows some knowledge of the subject. Some evidence, but lacking in strength.	Answer shows little knowledge of the subject. Evidence is lacking to support the answer.		x 40	
C. Examples	Examples are vivid, precise and clearly explained. Examples are original, logical and relevant.	Examples are usually concrete, sometimes needs clarification. Examples are effective, but need more originality or thought.	Examples are abstract or not clearly defined. Examples are sometimes confusing, leaving the listeners with questions.		x 5	
D. Being detail oriented	Is able to stay fully detail oriented. Always provides details which support the issue; is well organized.	Is mostly good at being detail oriented. Usually provides details which are supportive of the issue; displays good organizational skills.	Has difficulty being detail oriented. Sometimes overlooks details that could be very beneficial to the issue; lacks organization		x 5	

Prepared Public Speaking CDE Official Scorecard

Evaluation Criteria	Maximum Points	Participant 1:	Participant 2:	Participant 3:	Participant 4:	Participant 5:	Participant 6:	Participant 7:	Participant 8:
A. Verbal Communication Skills (from rubric) - 250 possible points									
Speaking without hesitation	50								
Tone	75								
Command of audience	75								
Connecting and articulating facts and issues	50								
B. Non-verbal Communication Skills (from rubric) - 200 possible points									
Attention (eye contact)	50								
Mannerisms	50								
Gestures	50								
Well poised	50								
C. Response to Questions (from rubric) - 300 possible points									
Speaking unrehearsed	50								
Knowledge of Topic	200								
Use of examples	25								
Being detailed oriented	25								
Subtotal points									
Subtotal points	750								
Less time deductions	Provided by room coordinator								
Net communication skills score									
Manuscript Score	250								
Net Total Points	1000								
Participant Ranking									

SMALL ENGINES

Revised 6/2024

Purpose and Standards

The purpose of the contest is to stimulate an appreciation for small engine repair and serve as one method of training Future Farmers in the skills and safety practices needed in diagnosing engine malfunctions. Schools will be required to bring a prescribed list of tools. There will be a critique following the contest.

Foundation Standards: Mathematics Algebra 10 and Geometry 11, Listening and Speaking 1.8, 2.3, Technology 4.1, 4.2, 4.6, Problem Solving and Critical Thinking 5.1, 5.2, 5.3, Health and Safety 6.2, 6.4, 6.5, Ethics and Legal Responsibilities 8.3, Leadership and Teamwork 9.1, 9.2, 9.3.

Ag Mechanics Pathway Standards: Safety B 1.0, Engines and Machinery B 10.0, B11.0.

Contestants

The contest team will be made up of three members. Each member will compete in the Theory and Identification areas. The top ten teams based on the combined scores of Theory and Identification areas, will compete in Problem Solving, Technical Skills, and Troubleshooting. The top five individuals, if they are not part of one of the top ten teams, will compete in the Problem Solving and Technical Skills area as well.

Classes

Class	Individual Points	Team Points
Identification	50	150
Theory Test	50	150
Problem Solving	50	150
Technical Skills	50	150
Troubleshooting		200
Total	200	800

Tiebreaker

1. Individual and team ties will be broken by individual's/team's scores on problem solving.
2. If a tie persists it will be broken by score on technical skills test.
3. If a tie persists it will be broken by score on theory test.
4. If a tie persists it will be broken by score on identification test.
5. If a tie persists it will be broken by the flip of a coin.

*In the qualifying rounds of Theory and Identification, ties will be broken by individual/team scores on theory. If a tie persists, follow 4 then 5 above.

Ties in the individual sub-contests will be broken by the highest individual overall score. Team sub-contests will be broken by the highest overall team score.

Requirements of the Host Institution

The sponsoring institution will indicate the parts catalog and price guide format and the engine model number that will be used in the troubleshooting portion of the contest in the registration materials sent to the competing school. A list of troubleshooting engine specifications for the judges will also be provided.

Rules

The contest is made up of the following areas:

- I. IDENTIFICATION (Time: 40 minutes)
 - A. Identification of engine parts and tools (50 points)

A key with the parts identified will be available at the end of the contest. All names used shall be those used by the manufacturer's engine or parts manual (16 horsepower or less). See Appendix I list.
- II. THEORY (Time: 40 minutes) (50 points - Maximum of 50 questions)
 - A. A written test on Basic Engine Theory including the following areas:

Compression	Troubleshooting
Carburetion	Fuels
Ignition	Cooling systems
Lubrication	Safety
Maintenance	Starters
 - B. Questions may be submitted by each school planning to compete at State Finals in the Small Engines Contest. They are to include the textbook page number, question and correct answer. They must be submitted by December 1 of each year to the Chairman at the school hosting the State Finals Contest.
 - C. Test questions will be derived from the following Reference Materials:
 1. Briggs Stratton Repair Manual – Single Cylinder 'L' Head and OHV (Intek)
 - a) [Textbook](#)
 2. FOS (Compact Engine by John Deere)
 - a) [Textbook](#)
 3. Small Gas Engines by Alfred C. Roth
 - a) [Textbook](#)
 4. Small Engines by Bruce Radcliff (American Technical Publications)
 - a) [Textbook](#)
 - D. The questions on this test will be theoretical in nature and will not include any references to exact engine specifications that should be looked up in the engine technical manual.
 - E. A copy of that year's written test will be provided to coaches as a hard copy or electronically.
- III. PROBLEM SOLVING: (Time: 40 minutes) (50 points)
 - A. Problem solving shall be made up of stations with 'hands-on' skills. A minimum of ten stations are required.
 - B. Each station will be equipped with the following:
 1. The specific components needed for the exercise.
 2. All tools needed to perform the task at the station.
 3. All technical manual pages and reference sheets needed that explain the procedure.
 4. A list of all specifications needed to complete the exercise.
 - C. Examples of Problem Solving questions are:

1. On what model engine are you working?
 2. To order a new head gasket for this model engine what is the part number?
 3. What is the valve clearance specification for this model engine?
 4. What high altitude jet would you use in this carburetor?
- IV. TECHNICAL SKILLS: (Time: 40 minutes) (50 points)
- A. Technical Skills shall be made up of stations with “hands-on” skills. A minimum of ten stations are required.
 - B. Each station will be equipped with the following:
 1. The specific components needed for the exercise.
 2. All tools needed to perform the task at the station.
 3. All technical manual pages and reference sheets needed that explain the procedure.
 4. A list of all specifications needed to complete the exercise.
 - C. Examples of “hands-on” exercises for Technical Skills are:
 1. Using a micrometer.
 2. Using a hole gauge and micrometer--measure valve guides, connecting rod journals, piston pin journals.
 3. Using a telescoping gauge and micrometer--measure cylinder bore.
 4. Using a dial indicator--measure crankshaft endplay.
 5. Using a feeler gauge--measure valve tappet clearance, point gap, armature air gap.
 6. Using a vibra tach--measure engine r.p.m.
 7. Using plug gauges as available from Briggs and Stratton--measure bearings, valve guides, breaker point plunger guides for "go no go" situations.
 8. Using a leak down tester to test engine compression.
 9. From displays of tools select those items needed for: pulling and installing valve seats; pulling and installing valve guides, etc.
 10. From displays of engine components: identify correctly assembled connecting rods and caps, ignition system, etc.
 11. Use of a billing statement and the calculations involved for parts and labor.
 12. Use of a digital multimeter.
- V. TROUBLESHOOTING THE SMALL ENGINE (200 points possible awarded to the team and no individual points to be awarded).
- A. Other than the use of a leak down tester, all tools will be hand powered. All small engines will be of same type starters, carburetors, and ignition systems. Teams are allowed two (2) minutes for tool set up prior to starting trouble shooting. Trouble shooting score sheets will be returned with team results as soon as possible. Each troubleshooting judge should critique each team upon completion of the troubleshooting phase of the contest. Team members may not possess any engine parts except those that might be provided by contest sponsor. Written material will be limited to the appropriate Repair Manual and a list of common specifications for the engine being used in the contest. No score sheets, etc. will be allowed.
 - B. (Time: 60 minutes repair time, 10 minutes Pre-Check/Diagnostic Period). Engines will run for one minute.
 1. Time will be stopped for any repairs required that are not a part of the engine scenario and/or bug introduced into engines.
 2. If time is stopped, teams will only be able to correct the issue outside the contest’s intended scope.
 3. Upon completion of these repairs the time will resume.

4. 10 minute “Pre-Check/Diagnostic Period” will commence during the first 10 minutes of troubleshooting. During the first 10 minutes, teams are to ask and record answers to troubleshooting questions, complete engine prechecks, and verify the customer’s complaint. At the completion of the diagnostic Worksheet, teams will turn in and present their diagnostic findings to the judge. During the “Pre-Check”/Diagnostic Period”, students are not to make any repairs to the engine or order any parts. Teams that have not completed the initial tasks (questions, engine prechecks, or complaint verification) within the first 10 minutes will be allowed to do so during the “Troubleshooting Period”. At the end of the Pre-Check/Diagnostic Period”, 60 minutes will remain to repair the engine.
 - C. Common adjustments and repairs will need to be solved by the team in the contest. The team will work together on trouble shooting. Example:
 1. Spark plug out of adjustment
 2. Governor linkage incorrect
 3. Carburetor out of adjustment
 4. Loss of compression
 5. Loose parts
 6. Obstructions
 7. Improper assembly
 8. Missing parts
 9. Worn or damaged parts
 10. Ignition system inoperable.
 - D. The contestants will be judged on the following items:
 1. Safety
 2. Proper use of tools
 3. Neatness of work
 4. Starting procedures
 5. Pre-start checks and diagnostics
 6. Troubleshooting and diagnostic methods
 7. Completion of work orderNote: Appendix II and III
 - E. If a team’s troubleshooting judge deems the procedures and actions damaging to the engine and its components, the judge will have the team stop with appropriate points deducted on the Small Engines Troubleshooting Score Sheet.
- VI. TOOLS – Each team’s toolbox should include tools commonly used in the repair and maintenance of small gas engines. A current recommended tool list will be available for teachers to download from the CATA Curricular Code website.

APPENDIX I**IDENTIFICATION LIST**

Tools used for the identification portion of the contest are to be those commonly used in small gas engine repair. Some examples are listed in the table below. In regards to the engine parts, list the items shown serve only as a point of reference for study. Similar items from other brands of engines may be used.

TOOLS

Adjustable open end wrench	Ratchet handle
Allen wrench	Regular or slotted screwdriver
Ball peen hammer	Ring compressor
Battery pliers	Screw pitch gauge
Box end wrench	Six point socket
Center punch	Socket adapter
Cold chisel	Socket extension
Combination end wrench	Soft face hammer
Combination slip join pliers	Spark plug gauge
Deep socket	Spark plug socket
Diagonal pliers	Spark tester
Drift punch	Speed handle
Flat feeler gauge	Strap wrench
Flex handle	Tachometer
Fuel clamp pliers	Torque wrench
Lever jawed wrench	Torx screwdriver
Long nose pliers	Torx socket
Nut driver	Universal joint
Offset screwdriver	Valve spring compressor
Open end wrench	Volt ohm milliamp (VOM) meter
Phillips screwdriver	Water pump pliers
Pin punch	

SPECIAL TOOLS

Briggs & Stratton Service Tools Catalog

ENGINE PARTS

The engine parts will be selected from the following: Briggs & Stratton Series 60000 to 260000.

Example:

Briggs & Stratton Illustrated Parts Lists specified below:

MODEL NUMBER	TYPE NUMBER
91200 TO 91299	0017
124700 TO 124799	0101
110400 TO 110499	N/A
261700 TO 267199	0020

APPENDIX II

Troubleshooting – General Information

Each team of three contestants will be given a maximum of one hour to diagnose and repair an engine and complete a standardized work order (see example – Appendix III). The judge will act as the customer and the team will act as the service technicians. Each team will be read a scenario by the judge. The scenario should include the type of equipment the engine is used on, where and how it was stored, used, etc. Through a series of standard questions, asked by the team members, they will diagnose and repair the engine based on the responses received from the judge (see example below). Upon starting the engine, the team will then be required to complete a work order including costs for parts, labor, and sales tax. Each judge will be provided with a written scenario and answers to the questions.

Example**Scenario**

This engine is from a rototiller that has been used for one season. It was stored outside, uncovered for six months with no other use.

Standard Questions and Example Responses:

Question: What is wrong with the engine?

Response: The (equipment type) will not run.

Question: How did the engine act when the problem occurred?

Response: It ran fine the last time I used it, but when I went to use it again, it would not start.

Question: Did you do anything to the engine prior to bringing it in?

Response: I removed the carburetor and looked inside. I also removed the float bowl and didn't see anything wrong, so I put it back together.

Question: What would you like us to do to the engine?

Response: Repair the problem.

Question: When was this engine last serviced?

Response: I had it serviced last year after using it on a job site. It's been sitting in my garage for the last six months.

Appendix III -- Small Engines Troubleshooting Score Sheet			
Team Name:	Judge's Name:	Possible	Earned
Points in these categories are variable			
Safety – Deduct 1 point for each infraction up to the maximum points in each line item.			
Wipes up oil and fuel spills as they occur		0 to 5	
Maintains safe work practices		0 to 5	
Each member wears safety glasses at all times		0 to 5	
	Total	15	
Tools and Parts – Deduct 1 point for each infraction up to the maximum points in each line item.			
a. Uses proper tool for the job		5	
b. Drops tools and parts – (Proper grip, careful not to drop tools and parts, etc.)		5	
c. Parts and Hardware installed correctly (not within the 3 systems below)		5	
d. Uses proper torque specifications and patterns using provided contest approved modified torque specification chart.		5	
	Total	20	
Pre Start Checks (Points are all or nothing in this category. NOTE: Steps “a” through “e” can be done in any order.)			
a. Check for proper oil level		5	
b. Check Gasoline Quality and Level		5	
c. Starter Operational		5	
d. Air cleaner serviced or replaced		5	
e. Stop Switch Operational		5	
f. Customer Complaint Verified (Tried to start the engine to verify the complaint prior to making repairs. No Points will be deducted for necessary repairs made to verify the complaint or prevent engine damage. No		5	
	Total	30	
Diagnostic Approach			
During the 10 minute “Pre-Check Diagnostic Period” teams will complete a Diagnostic Approach Worksheet. Teams will use information gained from the scenario, question responses, engine pre-checks, and verification of customer complaint to develop a diagnostic approach. Upon conclusion of the Diagnostic Period, teams will present and submit Diagnostic Approach Worksheet to the judge. Once submitted, no changes may be made to the document. For scoring, SEE APPENDIX V “Diagnostic Approach Scoresheet Rubric”.		See criteria	
	Total	35	
Procedurals Scoring – 0 points awarded for improper assembly or incomplete repairs in each area. No points will be given if a team fails to follow proper assembly of all components or if a judge must stop/correct a team for improper procedures that would result in engine damage.			
Fuel System (10pts) Required (circle one) Y N (Select only one Option “a” through “e”.)			
a. Repairs Needed, correct procedures used and rational explanation given	(10 pts) or	Score in correct box	
b. Repairs Needed, correct procedures used and no or incorrect explanation given	(5 pts) or		
c. Repairs Not needed, but correct procedures used and rational explanation given	(5 pts) or		
d. Repairs Not needed, no explanation needed	(10 pts) or		
e. Improper or incomplete repairs done and/or Judge stopped team to avoid damage	(0 pts)		
	Total	10	
Ignition System (10pts) Required (circle one) Y N (Select only one Option “a” through “e”.)			
a. Repairs Needed, correct procedures used and rational explanation given	(10 pts) or	Score in correct box	
b. Repairs Needed, correct procedures used and no or incorrect explanation given	(5 pts) or		
c. Repairs Not needed, but correct procedures used and rational explanation given	(5 pts) or		
d. Repairs Not needed, no explanation needed.	(10 pts) or		
e. Improper of incomplete repairs done and/or Judge stopped team to avoid damage	(0 pts)		
	Total	10	
Compression System (10pts) Required (circle one) Y N (Select only one Option “a” through “e”.)			
a. Repairs Needed, correct procedures used and rational explanation given	(10 pts) or	Score in correct box	
b. Repairs Needed, correct procedures used and no or incorrect explanation given	(5 pts) or		
c. Repairs Not needed, correct procedures used and rational explanation given	(5 pts) or		
d. Repairs Not needed, no explanation needed	(10 pts) or		
e. Improper or incomplete repairs done and/or Judge stopped team to avoid damage	(0 pts)		
	Total	10	
RPM Adjustments – Points are all or nothing in this category – Host will determine ALL RPM settings. All settings must be accurately measured and adjustment procedure is explained if needed.			
a. Non-governed Idle RPM Spec [] – Team Reading: [] Adj. Explained: Y N N/A		5	

Appendix III -- Small Engines Troubleshooting Score Sheet				
Team Name:		Judge's Name:	Possible	Earned
b. Idle Speed RPM is correct	[] – Team Reading: []	Adj. Explained: Y N N/A	5	
c. Top No Load Speed RPM is correct	[] – Team Reading: []	Adj. Explained: Y N N/A	5	
d. Engine runs for 1 minute within the allotted time after measuring & explaining the above engine RPM adjustments.			10	
Total			20	
Total points awarded for Troubleshooting			150	
Total points awarded for Work Order (Must be turned in to the judge within the one-hour time limit.)			50	
			200	

Appendix IV

California FFA Small Engines Work Order

(Must be turned into the judge within the one-hour time limit.)

Team Name _____

Date Unit was Inspected _____

Engine Number _____

Date Unit was Completed _____

					Judges Use Only!			
Judge's Name		Engine Brand	Type of Equipment			Possible	Awarded	
Model / Serial #		Type #	Code			10 pts		
Customer Comments: (5 questions at 2 pts ea.)								
1.								
2.								
3.								
4.								
5.					10 pts			
Work Performed: List each task performed on a separate line below and use the Flat Rate Labor Repair Chart description & hours provided to determine Labor Charge.								
Labor Description				Labor Hours	Labor Charge			
Labor Totals						10pts		
Part #	Description	Qty.	Unit Price	Total Price				
						10 pts		
Parts Total & Tax calculated from actual Parts Ordered				Parts Total			Math Check Only	
				Tax (8%)				
Labor Charge is \$75.00 per hour for work performed.				Labor Total				
Totals 2 points each				Grand Total			8 pts	
Legibility – 2 points or Zero (0) points – If any portion is not legible, no points will be awarded.						2 pts		
Judge's Signature: _____					Total Team Points Awarded		50 pts	

Flat Rate Labor Repair Chart

<u>Labor Rate is \$75.00 per hour</u>	Bill Time In hours
Repair/Adjustment Description	
Pre-Check & Diagnostics – Does not include repairs	0.2
Fuel System Repairs/Adjustments	
Carburetor Rebuild / Reassemble *	0.4
Carburetor Replacement *	0.2
Carburetor Spacer Replacement *	0.2
Carburetor / Fuel Line Obstruction Removal	0.2
Main Jet Replacement *	0.2
Float Repair/Replacement *	0.3
Carburetor Gasket(s) Replacement Only	0.2
Other Fuel System repair not listed - (must provide summary repair description on work order)	0.3
* = Time includes gasket replacement	
Ignition System Repairs/Adjustments	
Armature Air Gap Adjustment	0.2
Armature Replacement	0.3
Flywheel Key Replacement	0.5
Kill Switch Repair/Replace	0.2
Spark Plug Replacement/Adjust Gap	0.1
Other Ignition System repair not listed - (must provide summary repair description on work order)	0.3
Compression System Repairs/Adjustments	
Valve(s) Replacement	0.7
Valve(s) Clearance Adjustment	0.3
Push Rod(s) Replacement	0.5
Cylinder Head Gasket Replacement	0.7
Cylinder Head Replacement / Reassembly	0.7
Other Compression System repair not listed - (must provide summary repair description on work order)	0.5
Service	
25 Hour - Clean air filter	0.1
50 Hour - Clean air filter, Change engine oil, check muffler and spark arrester	0.2
100 Hour / Annual - Replace air filter, Replace pre-cleaner, Replace spark plug, Replace fuel filter, Clean air cooling system, Valve adjustment, Change engine oil	0.5
Starter Repair/Adjustments	
Rewind Starter assemble repair	0.3
Rewind Starter Replacement	0.2
Governor Repair/Adjustments	
Dynamic Adjustment	0.2
Linkage Repair/Replacement	0.3
Exhaust System Repair	
Obstruction Removal	0.2
Engine Repair - Other	
Other necessary engine repairs not listed above - (must provide summary repair description on work order)	0.2

Appendix V

Diagnostic Approach Worksheet

Team: _____

Judge: _____

-Systems in Need of Repair: (Circle all that apply)

Compression

Fuel

Ignition

-Team Diagnostics

Team Diagnostics should include information from scenario, customer responses, and results of precheck of the engine.

-Repair Method

What diagnostic equipment or repair techniques will be used to isolate and identify repairs needed for the engine.

Possible	Earned
10	
15	
10	
Total	

Diagnostic Approach Scoresheet Rubric

Systems in Need of Repair: 10 Points Possible

Score is all or nothing in identifying engine systems in need of repair.

Team Diagnostics: 15 Points Possible

15 Points:

The team includes all correct and pertinent information regarding the engine bug from the scenario.
The team's diagnostics incorporate and accurately interpret customer comments.
The results of all engine pre checks relevant to engine bugs are noted.
The presentation to judge is comprehensive, showing a deep understanding of the problem.

10 Points:

The team provides mostly correct information but is missing details specifically related to the engine bug from the scenario.
Customer comments are included and correctly interpreted.
Results of engine pre checks are documented, though there may be minor errors or omissions.
The overall presentation to judge demonstrates a good understanding of the problem but lacks complete detail.

5 Points:

- The team's diagnostics are incorrect or incomplete, missing several key pieces of information.
- Customer comments may be misinterpreted or not included.
- The engine prechecks are either not thoroughly documented or contain significant errors.
- The presentation to judge shows a limited understanding of the problem.

0 Points:

The team makes no attempt to perform diagnostics.
No customer comments are included.
Engine pre checks are not documented.
The presentation to the judge lacks any meaningful content regarding the diagnostics of the engine issue.

Repair Method: 10 Points Possible10 Points:

- The team correctly provides reasons for using diagnostic equipment and repair techniques to isolate and identify the necessary repairs for the engine.
- All repairs are addressed according to their stated Team Diagnostics prompt.
- The team quotes OEM specifications from technical publications and/or provided specification sheets from the host institution and curricular code, demonstrating adherence to manufacturer guidelines.

5 Points:

The team provides some reasoning for using diagnostic equipment and repair techniques, but it may lack clarity or completeness.

Most repairs are addressed from their stated Team Diagnostics prompt, but there may be minor omissions or errors.

The team references OEM specifications, but the application of these specifications may be incomplete or partially incorrect.

0 Points:

The team fails to provide reasoning for using diagnostic equipment and repair techniques, or the reasoning is incorrect.

Repairs are not adequately addressed from their stated Team Diagnostics prompt.

The team does not reference OEM specifications, or the references are incorrect and not used effectively.

APPENDIX VI-Torque Values

FASTENER	TORQUE	ADJUSTED TORQUE
Air Cleaner Base Screw	50 lb-in.	45 lb-in.
Air Cleaner Base Nut	40 lb-in.	35 lb-in.
Armature Screws	95 lb-in.	80 lb-in.
Blower Housing Screw	85 lb-in.	75 lb-in.
Connecting Rod Cap Screw	125 lb-in.	105 lb-in.
Control Panel Trim Screw	30 lb-in.	25 lb-in.
Crankcase Cover Screws	210 lb-in.	175 lb-in.
Cylinder Head Screws	210 lb-in.	175 lb-in.
Cylinder Heat Shield Screws	50 lb-in.	45 lb-in.
Flywheel Nut	65 lb-ft.	N/A
Fuel Tank Screw	85 lb-in.	75 lb-in.
Fuel Tank Nut	100 lb-in.	85 lb-in.
Governor Lever Nut	30 lb-in.	25 lb-in.
Low Oil Sensor Module Screw	85 lb-in.	75 lb-in.
Muffler Stud Nut	95 lb-in.	80 lb-in.
Oil Drain Plug	150 lb-in.	130 lb-in.
Rocker Arm Stud	120 lb-in.	100 lb-in.
Rocker Ball Locknut	70 lb-in.	60 lb-in.
Rocker Cover Screw	80 lb-in.	70 lb-in.
Spark Plug	180 lb-in.	155 lb-in.
Speed Control Bracket	85 lb-in.	75 lb-in.

Score Sheet Judging Criteria

I. Safety

- A. Wipes up oil and fuel spills as they occur – within 30 seconds of occurring is acceptable.
- B. Maintains safe work practices – this includes organized worktable, safe tool, and engine handling. Personal injury will incur maximum point deduction.
- C. Each member wears approved safety glasses at all times. – 1 pt deduction for each occurrence. If team member fails to have glasses on for more than 30 seconds, will incur maximum point deduction. No points will be deducted for removing safety glasses to read Technical Manuals or Illustrated Parts Lists.

II. Tools and Parts

- A. Uses proper tool for the job – examples of infractions include using the wrong size wrench/socket on a fastener, using a screwdriver to pry, or using a hex wrench in a torx fastener. Should not include: using a socket and extension as a nut driver, using common pliers to remove fuel lines, or using a screwdriver to loosen the oil fill cap.
- B. Drops tools and parts (proper grip, careful not to drop tools and parts, etc.) - examples of infractions for improper grip include not holding a torque wrench at the handle or balance point, touching the torque wrench on other than the handle while torquing, or using a closed fist grip while torquing the flywheel.
- C. Parts and hardware installed correctly (not within the three diagnostic areas) – examples of infractions include sheet metal components not fitted correctly, kill wire or spark plug wire routed incorrectly, or air filter cover incorrect.
- D. Uses proper torque specifications and patterns using provided contest approved modified torque specification chart. Each infraction is 1 point deduction. See Appendix VI

III. Pre-Start Checks

- A. Check for proper oil level – team checks that the oil level is within operating range.
- B. Check gasoline quality and level – team checks for sufficient fuel level and takes a fuel sample to check for contaminants.
- C. Starter operational – team checks for proper and safe starter operation. This includes checking starter rope for frays.
- D. Air cleaner serviced or replaced – team checks air filter for debris and replaces as needed.
- E. Stop switch operational – team tests the stop switch operation using an ignition tester as visual confirmation the stop switch is functioning.
 - 1. All Pre-Start Checks listed above must be done before the team attempts to start and verify customer's complaint to receive points for each area.
- F. Customer complaint verified – team tried to start the engine and duplicate the customer's complaint. The team must verify complaint prior to making repairs within the fuel, ignition, and compression systems. Points will not be deducted for necessary repairs made to verify the complaint or prevent engine damage. Acceptable repairs may include: starter rope repair; adding of engine oil; repair of the kill switch; clean out of contaminated fuel; fuel leak repair.

IV. Diagnostic Approach

- A. Each team will complete a diagnostic approach to determine the cause of engine issue or failure.
- B. During this approach teams will need to isolate the system(s) that are causing the problem with the engine and describe how they will repair the engine using this approach.

- C. Each team will be given 10 minutes to determine what they believe is the issue, the teams will fill out a worksheet with their plan of action and present that information to the judge prior to doing any repairs to the engine.
 - D. The Diagnostic Worksheet must be turned into the judge before any repairs are made to the engine.
- V. Procedurals
- A. Procedurals will not earn points within the Fuel, Ignition, and/or Compression Systems when a team fails to correctly assemble or adjust parts within that system. Examples of a situation that would require a procedural include, but not limited to misadjusted valves, magneto on backwards, improper magneto gap, carburetor spacer on backwards (NOTE: Protrusion must be installed toward the carburetor with a gasket on both sides), governor linkage installed incorrectly, not scraping old gasket material before installing a new gasket, not replacing all required gaskets for the repair.
- VI. Fuel System, Ignition System, Compression System
- A. Repairs needed, correct procedures used and rational diagnostic explanation given – 10 points will be awarded if the team corrected the problem within the area with no procedurals and explained diagnostic rationale.
 - B. Repairs needed, correct procedures used and no or incorrect explanation given – 5 points will be awarded if the team disassembles and assembles system components that were necessary and did so with procedurals but gave no diagnostic explanation.
 - C. Repairs not needed, but correct procedures used and rational diagnostic explanation given - 5 points will be awarded if a system is not part of the problem but the team used and explained diagnostic rationale.
 - D. Repairs not needed so no diagnostic explanation needed – 10 points will be awarded if a team does nothing with a system because it is not necessary.
 - E. When improper or incomplete repairs are done and/or a Judge stops the team to avoid damage to the engine – 0 points will be awarded.
- VII. RPM Adjustments
- A. Idle Speed & Top No Load Speed RPM will be measured using a tachometer. The judge will verify the team’s measurement is correct and within the desired settings. If necessary, the team will properly explain how each of the governor adjustments would be made according to factory procedures to bring the engine into specification. Zero (0) points will be awarded if the team fails to accurately measure and/or describe approved speed adjustment procedures or fails to identify the engine is out of specification range for each speed adjustment area.
- VIII. Work Order Documentation
- The Labor Guide is based on Briggs allowed times where available and designed to bring industry time management practices to the CDE.
- A. Teams will use the standard repair descriptions and times when documenting the repair on the Work Order.
 - B. Teams will need to clearly define when “Other” work is performed that is not listed in the Labor Guide.
 - C. Judges will score the Labor and Parts charges on the Work Order portion of the contest as if they were the actual customer. Specifically, Teams should not be docked points if they perform additional work and/or replace parts that make sense and are properly explained as part of the scenario but not listed on the answer key.
 - D. The Parts Total, Tax, Labor Total and Grand Total score is a math check only based on the Teams actual work performed & parts replaced.

SOIL AND LAND EVALUATION

Revised 6/2023

Purpose and Standards

The land event seeks to effectively make students aware of the value of soils in production agriculture, environment and society.

Foundation Standards: Mathematics 10.0, 15.0. Science 1a. Problem Solving & Critical Thinking 5.1, 5.2, 5.3. Leadership & Teamwork 9.1, 9.6. Technical Knowledge & Skills 10.1, 10.2. Demonstration & Application 11.0.

Agricultural Standards: Agriscience Pathway: C10.1, 10.2, 10.3. Forestry and Natural Resources Pathway: E3.1, 3.2, 3.3. Plant and Soil Science Pathway: G6.1, 6.2, 7.3.

Contestants

Teams shall consist of three or four members. The scores of the three highest team members shall be used for the team score. All team members are eligible for individual awards.

Classes

Class	Individual Points	Team Points
Pit #1	111	333
Pit #2	111	333
Pit #3	111	333
Pit #4	111	333
Total	444	1332

Tie Breaker

Team and individual ties will be broken by the following items:

- Pit #1, Pit #2, Pit #3, Pit #4

Sub-contest Awards

Sub-contest awards will be given for high teams and individuals in the following areas: Pit #1, Pit #2, Pit #3, and Pit #4.

Rules

- I. There will be four (4) sites judged for official score.
- II. Use of communication devices will not be permitted in a designated contest area/building. This would include, but not limited to cell phones, MP3 players, iPods, etc. Violation will result in immediate removal from the contest he/she competed in and will become ineligible for any awards. Any devices collected prior to the start of the contest will not be returned until all competitors have completed the contest.
- III. All contestants shall be allowed forty (40) minutes at each site to complete the score card. Once at the site students will be split into two groups. The first group will have 10 minutes to evaluate the pit, afterward the second group will have 10 minutes to evaluate the pit. At the conclusion of those 10 minute intervals, all students within the two groups will have the remaining 20 minutes to evaluate the pit.

- IV. Students will be given an extra 5 minutes at the end of the 40 minutes at each pit to fill out the official Judging Card for tabulations. Once they have requested their card they may not return to the pit.
- V. Contest sites will provide students with a practice sheet per pit (4) and one official Judging Card tabulation sheet. Practice sheets and their official Judging Card tabulation sheet will be collected at the conclusion of each pit.
- VI. All contestants must fill out the official score card and will be graded according to points shown on the score card. A total of one hundred and eleven (111) points will be the maximum score for each site.
- VII. Contestants in land judging will be divided into four groups. Only one group shall be allowed at any one site at the same time. Only one member of a team shall be allowed in a group.
- VIII. All the following equipment for contestants will be available at the judging sites.
 - A. Water
 - B. Rulers
 - C. Pick and/or shovel
 - D. Paper towels
 - E. Clipboards
- IX. The top five (5) teams of this contest shall be eligible to represent the state in the National Contest in Oklahoma City.
- X. Contestants are not to bring clipboards, printed or written materials to the contest. Contestants may use non-programmable calculators, clinometers, abney levels, or slope indicators.
- XI. The following will be done at the State Finals Contest:
 - A. No critique will be given until all sites have been judged.
 - B. An answer key will be provided to coaches after contest judging is complete.
 - C. The official California FFA Land Judging Manual (most current revised edition) will be used as the standard for evaluating all land judging scorecards.
 - D. No alternates are allowed to compete.
- XII. Sites
 - A. The boundary of each site to be judged will be plainly and visibly flagged with numerous flags. Slope will be indicated by two red flags 100 feet apart.
 - B. The soil will be judged moist for color determination.
 - C. Texture only will be used to determine air and water movement.
 - D. Erosion control practices will be used only for classes 1-6.
 - E. A 31 x 11 sign will be posted at each site or a mimeo sheet provided with the following information.
 - 1. Water available (yes or no)
 - 2. Original depth of surface soil (inches)
 - F. The pits should be a maximum of 72 inches deep. If this is not possible, the bottom soil shall be considered to be of indefinite depth. Each site will be repaired, by an official, to its original depth and conditions after each group is finished.
 - G. Stakes will be placed in the pits indicating the limits of the profiles to be judged. An area at least 12" wide, the depth of the pit, will be left untouched to show original condition.
- XIII. The official California FFA Land Judging Manual (most current revised edition).
 - A. The Cal Poly faculty member with the soil judging duties will publish the Soils Manual.
 - B. Manuals will be made available to official judges prior to judging the sites.
 - C. The Soil Judging Card will be maintained separately from the Land Judging Manual.
 - D. Any updated manual will need to be made available to CATA by January 1st of the current judging year.

XIV. Scoring

During the start of the state finals contest, coaches representing the previous year's qualifying state finals teams will assess/confirm the scoring of the four state finals pits. Final official key will be determined by a majority consensus of the coaches represented, the CATA approved contest consultant, and the host facility contest chair.

Scoring of individual items will be as follows:

	Category	Points	Notes
	1. Surface Soil		
1	A. Color	5	
2	B. Texture	5	
3	C. Gravel and Rock	3	
4	D. Thickness	3	
	2. Subsoil		
	No Subsoil		Indicate NONE for E,F,G
5	E. Color	5	
6	F. Texture	5	
7	G. Thickness	3	
	3. Interpretation of Soil Features		
8	H. Type of Material That Limits Depth	5	
9	I. Parent or Underlying Material	5	
10	J. Depth of Soil Favorable For Roots & Water Penetration	5	
11	K. Air & Water Movement	5	
12	L. Available Water Holding Capacity to 60 Inches	5	
	4. Accelerated Erosion		
13	M. Amount of Erosion or Evidence of Deposition	3	
14	N. Kind of Erosion	3	
	5. Topography		
15	O. Landscape Position	3	
16	P. Steepness of Slope	5	
17	6. Land Capability Classification	8	
18	7. Land Use	6	Mark "Yes" or "No" for each possible answer
19	8. Major Problems in Use	8	Mark "Yes" or "No" for each possible answer
	9. Land Management Needs		
20	Q. Agricultural Management Practices	7	Mark "Yes" or "No" for each possible answer
21	R. Erosion Control	4	Mark "Yes" or "No" for each possible answer

22	S. Irrigation Methods	5	Mark "Yes" or "No" for each possible answer
	10. Urban Land Limitations		
23	T. Limitations For Septic Tank Filter Fields	1	
24	U. Limitations For Shrink-Swell	1	
25	V. Limitations For Foundations Without Basements	1	
26	W. Limitations For Local Roads and Streets	1	
27	X. Limitations For Top Soil	1	
	TOTAL	111	

* Points are awarded only if contestant's choice(s) match the choices of the judge.

Practice sheets can be found in the California FFA Soil and Land Evaluation Manual.

Official Judging Cards for tabulation can be found and ordered via Judging Card.

VEGETABLE CROP JUDGING

Revised 6/2022

Purpose and Standards

The purpose of the Vegetable Crop Judging Contest is to create interest and promote understanding in the vegetable crop industry by providing opportunities for recognition through the demonstration of skills and proficiencies. It is the intention of the contest to provide a venue for students to explore career opportunities, skills and proficiencies in the vegetable crop industry. The emphasis of this contest is to promote critical thinking, evaluation, oral and identification skills.

Foundation Standards: Academics Science, 1.d, 1.l. Communications Written and Oral Conventions Listening and Speaking 1.1, 2.2, 1.8. Ethics and Legal Responsibilities, 8.4. Leadership and Teamwork 9.1, 9.2, 9.3, 9.6.

Plant and Soil Science Pathway Standards: G1.1-1.6, G5.1, G1.2, G7.1, G.10.1-10.3.

Contestants

Teams shall consist of three or four members. The scores of the three highest team members shall be used for the team score. All team members are eligible for individual awards

Classes

Class	Individual Points	Team Points
Judging Class 1	50	150
Judging Class 2	50	150
Judging Class 3	50	150
Judging Class 4	50	150
Reasons Class 1	50	150
Reasons Class 2	50	150
Reasons Class 3	50	150
Reasons Class 4	50	150
Identification	400	1200
TOTAL	800	2400

Tiebreaker

1. The team or individual scoring the highest identification(s) will be the winner.
2. If a tie still exists, the total reasons score will be used to determine the high individual or team.
3. If a tie still exists, the total score of the individual or team will be used to determine the high individual or team.

Sub-contest Awards

Sub-contest awards will be given for high teams and individuals in the following areas: Identification, Judging, and Reasons. (Reasons are **not included** in judging sub-contest score.)

Rules

- I. The Vegetable Crop Judging Contest will consist of the following:
 - A. Judging vegetables and giving oral reasons.
 - B. Identification of edible portions of vegetables, vegetable seeds, common weeds, common insects and pests and vegetable plants intended for transplanting.
 - C. Identification of market defects, evidence of diseases and insect or pest damage.
 - D. There are 800 points possible for each contestant.
- II. General Rules
 - A. The individual(s) responsible for the contest has the authority to determine whether an answer given by a student is correct or not, using the current CATA Curricular Code.
 - B. Contestants and coaches are invited to ask questions of judges and inspect the judging samples after the close of the contest.
 - C. The judges will explain the placings at a set time after the close of the contest.
- III. Judging
 - A. Four classes of vegetables will be judged; each class will consist of four plates with each plate containing vegetables according to the following:

2 Specimens

Celery	Cauliflower
Cabbage	Lettuce
Broccoli (2 bunches)	

4 Specimens

Artichokes	Sweet Potatoes or Yams
Dry Onions	Irish Potatoes
Tomatoes	Peppers

6 Specimens

Squash
Table Beets

10 Specimens

Carrot

Classes will be made from the following varieties, types or kinds:

<u>Kind</u>	<u>Varieties or Types</u>
Artichokes	Globe Type
Broccoli	No Variety Specified
Cabbage	No Variety Specified
Carrot	Imperator Type
Cauliflower	No Variety Specified
Celery	Green Type
Dry Onions	Flat or Globe Type
Irish Potatoes	Russet, White

Lettuce	Iceberg type, Butterhead, Redleaf, Greenleaf, and Romaine
Pepper	Bell type, Jalapeño, Poblano
Squash	Zucchini, White Scallop
Sweet Potatoes	No Variety Specified
Table Beets	No Variety Specified
Tomatoes	Large Slicing Market, Roma

B. Instructions To Contestants -- Rules for Judging

1. The name of the vegetable will be specified by the host institution.
2. The vegetables will be judged on the basis of quality which will bring the best financial return on the retail market.
3. Placings will be submitted on cards supplied to the contestant. Comparative reasons will be given on all classes without notes. (Notes may be used in the preparation of reasons).
4. No contestant will be allowed to touch any vegetable on the judging plates. The judges will place the vegetables in a position so that all qualities and conditions can be seen without turning them over.
5. Twelve (12) minutes will be allowed to judge each of the four classes; two (2) minutes will be allowed for each set of reasons; reasons will be given on each of the four classes.
6. Fifty (50) points will be allowed on each class correctly placed; up to fifty (50) additional points will be allowed for each set of reasons.
7. The total points possible for each contestant in the judging portion of the contest is 400.

IV. IDENTIFICATION (Five points each)

- A. Eighty (80) specimens will be selected from the identification list. Specimens will be either vegetable (edible portion), vegetable seeds, weeds common to vegetable crop fields, insects and pests common to vegetable crops, market defects, evidences of diseases and insect or pest damage and vegetable plants intended for transplanting.
- B. Instructions to Contestants
1. Contestants are not allowed to carry into the contest notes or any materials which may aid the contestant. No identification answer sheets or material indicating answers may leave the identification room. Contestants found in violation of this rule will be immediately disqualified.
 2. Contestants are not to take portions of the identification samples nor are they allowed to touch the samples in any way. Contestants found in violation of this rule will be immediately disqualified.
 3. Common names as given on the attached list will be used in identifying specimens.
 4. Five (5) points will be allowed for each specimen properly identified with a possible total of 400 points for each contestant.
 5. Contest site will provide a numerical identification list.
 6. Fifty (50) minutes will be allowed for the identification portion of the contest.

C. Instructions to Judges:

1. Specimens for identification must be of sufficient size and maturity to show identifiable characteristics.
2. As part of the 80 identification specimens a maximum of 40 edible portion (including miscellaneous produce) shall be included. The remaining specimens shall come from vegetable seeds, weeds common to vegetable crop fields, insects and pests common to vegetable crops, market defects, evidences of diseases and insect or pest damage and vegetable plants intended for transplanting.
3. Identification specimens are to be mixed and not separated into sections.
4. Edible portions must be present with all specimens in the Disease, Insect or Pest Damage, and Market Defect section.
5. Judges will indicate the specimens which should be identified for diseases, insect or pest damage, and market defect. The judge will indicate specifically which one of the above should be identified by means of an arrow, yarn and pin, or some easily detected method.
6. The judges will identify the specimens at a set time after the close of the contest.
7. Growers' Weed Identification Handbook, UC Cooperative Extension will be used to determine the correct spelling of all weed identification.

V. Suggested References:

- Growers' Weed Identification Handbook - UC Cooperative Extension
- Pierce, L. 1987. Vegetables: Characteristics, production and marketing. John Wiley and Sons, New York
- Whitson, T., L. Burrill, S. Dewey, D. Cudney, B. Nelson, R. Lee and R. Parker. 1991 Weeds of the west. Western Society of Weed Science

Identification of Edible Portion of VegetablesBuckwheat Family (Polygonaceae)

Rhubarb

Cotton Family (Malvaceae)

Okra

Ginger Family (Zingerberaceae)

Ginger

Goosefoot Family (Chenopodiaceae)

Spinach

Swiss chard

Table beet

Gourd Family (Cucurbitaceae)

Acorn squash

Banana squash

Butternut squash

Cantaloupe

Chayote

Cucumber

Delicate squash

Honeydew

Pumpkin

Spaghetti squash

Watermelon

White scallop squash

Yellow crookneck squash

Yellow straightneck squash

Zucchini squash

Grass Family (Gaminaceae)

Sweet Corn

Identification of Edible Portion of Vegetables Cont.Lily Family (Liliaceae)

Asparagus

Morning Glory Family (Convolvulaceae)

Moist flesh sweet potato (syn. Yam)

Dry flesh sweet potato

Mustard Family (Brassicaceae)

Arugula

Bok Choy (syn. Pak Choy)

Broccoli

Brussels sprout

Cauliflower

Chinese cabbage (syn. Napa cabbage)

Collard greens

Curly leaved kale

Daikon

Green cabbage

Horseradish

Kohlrabi

Leaf mustard

Plain leaved kale

Radish

Rapini broccoli (Broccoli rabe)

Red cabbage

Rutabaga

Turnip

Watercress

Onion Family (Alliaceae)

Chive

Garlic

Green bunching onion (syn. Scallion)

Leek

Red onion

Shallot

White onion

Yellow onion

Parsley Family (Apiaceae)

Carrot

Celeriac

Celery

Cilantro (syn. Coriander; Chinese parsley)

Parsley

Parsnip

Pea Family (Fabaceae)

Jicama

Lima bean

Snap bean

Snow pea (Syn: Edible-podded pea)

Soybean

Sugar snap pea

Potato Family (Solanaceae)

Anaheim pepper

Bell pepper

Blue potato (blue skin; blue/white flesh)

Cayenne pepper

Cherry tomato

Eggplant

Fingerling potato

Habanero pepper

Jalapeño pepper

Poblano pepper

Red potato

Roma tomato

Russet potato

Tomato

Tomatillo

White potato

Yellow wax pepper

Sunflower Family (Asteraceae)

Artichoke

Butterhead lettuce

Endive

Belgian endive

Escarole

Greenleaf lettuce

Iceberg lettuce

Radicchio

Redleaf lettuce

Romaine lettuce

Miscellaneous Produce Identification

All items must be placed in a fresh state, not dried or in spice form.

Basil	Portabella mushroom
Button mushroom	Rosemary
Dill	Sage
Fennel	Shitake mushroom
Mint	Tarragon
Oregano	Thyme

Vegetable Seed Identification

Artichoke seed	Parsley seed
Asparagus seed	Parsnip seed
Banana squash seed	Pea seed
Carrot seed	Pepper seed
Celery seed	Radish seed
Coated seed	Snap bean seed
Cole crop seed	Spinach seed
Cucumber seed	Table beet seed
Lettuce seed	Tomato seed
Onion seed	Zucchini seed

Vegetable Crop Weeds Identification

<u>Common Name</u>	<u>Botanical Name</u>
Annual bluegrass	<i>Poa annua</i>
Annual sowthistle	<i>Sonchus oleracus</i>
Barnyardgrass	<i>Echinochloa crusgalli</i>
Bermudagrass	<i>Cynodon dactylon</i>
Black mustard	<i>Brassica nigra</i>
Black nightshade	<i>Solanum nigrum</i>
Bristly oxtongue	<i>Picris echioides</i>
Burning nettle	<i>Urtica urens</i>
California burclover	<i>Medicago polymorpha</i>
Chickweed	<i>Stellaria media</i>
Cocklebur	<i>Xanthium strumarium var. canadense</i>
Common groundsel	<i>Senecio vulgaris</i>
Common knotweed	<i>Polygonum aviculare</i>
Common purslane	<i>Portulaca oleracea</i>
Common sunflower	<i>Helianthus annuus</i>
Curly dock	<i>Rumex crispus</i>
Fiddleneck	<i>Amsinckia spp.</i>
Field bindweed	<i>Convolvulus arvensis</i>

<u>Common Name</u>	<u>Botanical Name</u>
Filaree	<i>Erodium sp.</i>
Foxtail barley	<i>Hordeum jubatum</i>
Johnsongrass	<i>Sorghum halapense</i>
Large crabgrass	<i>Digitaria sanguinalis</i>
London rocket	<i>Sisymbrium irio</i>
Lambsquarter	<i>Chenopodium album</i>
Malva	<i>Malva spp.</i>
Miner's lettuce	<i>Claytonia perfoliata</i>
Nutgrass	<i>Cyperus spp.</i>
Pigweed	<i>Amaranthus retroflexus</i>
Pineappleweed	<i>Chamomilla suaveolens</i>
Prickly lettuce	<i>Lactuca serriola</i>
Puncture vine	<i>Tribulus terrestris</i>
Russian thistle	<i>Salsola australis</i>
Scarlet pimpernel	<i>Anagallis arvensis</i>
Shepherds purse	<i>Capsella bursa-pastoris</i>
Wild radish	<i>Raphanus sativus</i>
Yellow mustard	<i>Brassica campestris</i>

Evidence of Disease, Insect Damage and Market Defects (See I.D. Section)

Aphid

Specify Vegetable by name given in Identification Section Edible Portion of Vegetables section

Bacterial Spot

Tomato

Pepper

Bolting

Cabbage

Carrot

Cauliflower

Celery

Lettuce

Onion

Edible Portion Sprouting

Carrot

Dry flesh sweet potato

Moist flesh sweet potato (syn. Yam)

Onion

Russet potato

Mildew

Specify Vegetable by name given in the Identification of Edible Portion of Vegetable section.

Mosaic

Specify Vegetable by name given in the Identification of Edible Portion of Vegetables section.

Overmaturity

Specify Vegetable name given in the Identification of Edible Portion of Vegetables section.

Rhizoctonia

Potato

Scab

Carrot

Russet potato

Sclerotinia

Lettuce

Broccoli

Cabbage

Cauliflower

Brussels sprouts

Smut

Sweet corn

Soft Rot

Celery

Carrot

Dry flesh sweet potato

Moist flesh sweet potato (syn. Yam)

Russet potato

Tomato

Tipburn

Lettuce

Veining

Dry flesh sweet potato

Moist flesh sweet potato (syn. Yam)

Plants Intended for Transplanting

Artichoke transplant

Iceberg lettuce transplant

Butterhead Lettuce transplant

Kale transplant

Broccoli transplant

Onion transplant

Cauliflower transplant

Parsley transplant

Celery transplant	Pepper transplant
Cilantro transplant	Redleaf lettuce transplant
Cucumber transplant	Romaine lettuce transplant
Eggplant transplant	Squash transplant
Greenleaf lettuce transplant	Tomato transplant

Vegetable Crop Insect and Pest Identification

<u>Common Name</u>	<u>Scientific Name</u>
Aphid	<i>Aphididae (family)</i>
Cabbage looper	<i>Trichoplusia ni</i>
Click beetle	<i>Elateridae (family)</i>
Corn earworm	<i>Helicoverpa zea</i>
Cutworm	<i>None specific</i>
Darkling beetle	<i>Blapstinus spp.</i>
Earwig	<i>None specific</i>
Garden symphylan	<i>Scutigerella immaculata</i>
Grasshopper	<i>Acrididae (family)</i>
Harlequin bug	<i>Murgantia histrionica</i>
Japanese beetle	<i>Polillia japonica</i>
Leafhopper	<i>Cicadellidae (family)</i>
Leafminer	<i>Liriomyza spp.</i>
Lygus bug	<i>Lygus spp.</i>
Nematode*	<i>None specific</i>
Slug	<i>None specific</i>
Snail	<i>None specific</i>
Soil grub	<i>Melolonthinae phyllophaga</i>
Squash bug	<i>Anasa tristis</i>
Thrip	<i>None specific</i>
Western spotted cucumber beetle	<i>Diabrotica undecimpunctata</i>
Western striped cucumber beetle	<i>Acalymma trivittata</i>
Western yellowstriped armyworm	<i>Spodoptera praefica</i>
Whitefly	<i>Aleyrodidae (family)</i>
Wireworm larvae	<i>Elateridae (family)</i>

**Sample of Nematode damage can be used to identify Nematode.

A Suggested Score Card as a Basis for Instruction in Judging Vegetable Exhibits

	Possible Points
Condition - (clean, no blemishes, properly trimmed)	30
Uniformity - (same size, shape, color)	25
Trueness to type - (typical of variety)	15
Quality - (edible maturity, crispness, firmness)	20
Size - (conformity with market demands)	10
TOTAL	100

Identification of Edible Portion of Vegetables

100.	Acorn squash	133.	Escarole
101.	Anaheim pepper	134.	Fingerling potato
102.	Artichoke	135.	Garlic
103.	Arugula	136.	Ginger
104.	Asparagus	137.	Green bunching onion (syn. Scallion)
105.	Banana squash	138.	Green cabbage
106.	Belgian endive	139.	Greenleaf lettuce
107.	Bell pepper	140.	Habanero pepper
108.	Blue Potato (blue skin; blue/white flesh)	141.	Honeydew
109.	Bok Choy (syn. Pak Choy)	142.	Horseradish
110.	Broccoli	143.	Iceberg lettuce
111.	Brussels sprout	144.	Jalapeño pepper
112.	Butterhead lettuce	145.	Jicama
113.	Butternut squash	146.	Kohlrabi
114.	Cantaloupe	147.	Leaf mustard
115.	Carrot	148.	Leek
116.	Cauliflower	149.	Lima bean
117.	Cayenne pepper	150.	Moist flesh sweet potato (syn. Yam)
118.	Celeriac	151.	Okra
119.	Celery	152.	Parsley
120.	Chayote	153.	Parsnip
121.	Cherry tomato	154.	Plain leaved kale
122.	Chinese cabbage (syn. Napa cabbage)	155.	Poblano pepper
123.	Chive	156.	Pumpkin
124.	Cilantro (syn. Coriander; Chinese parsley)	157.	Radicchio
125.	Collard greens	158.	Radish
126.	Cucumber	159.	Rapini broccoli (Broccoli rabe)
127.	Curly leaved kale	160.	Red cabbage
128.	Daikon	161.	Red onion
129.	Delicate squash	162.	Red potato
130.	Dry flesh sweet potato	163.	Redleaf lettuce
131.	Eggplant	164.	Rhubarb
132.	Endive	165.	Roma tomato
		166.	Romaine lettuce

CATA Curricular Activities Code

- 167. Russet potato
- 168. Rutabaga
- 169. Shallot
- 170. Snap bean
- 171. Snow pea (Syn: Edible-podded pea)
- 172. Soybean
- 173. Spaghetti squash
- 174. Spinach
- 175. Sugar snap pea
- 176. Sweet Corn
- 177. Swiss chard
- 178. Table beet
- 179. Tomatillo

Vegetable Crop Judging

- 180. Tomato
- 181. Turnip
- 182. Watercress
- 183. Watermelon
- 184. White onion
- 185. White potato
- 186. White scallop squash
- 187. Yellow crookneck squash
- 188. Yellow onion
- 189. Yellow straightneck squash
- 190. Yellow wax pepper
- 191. Zucchini squash

Miscellaneous Produce Identification

- 200. Basil
- 201. Button mushroom
- 202. Dill
- 203. Fennel
- 204. Mint
- 205. Oregano
- 206. Portabella mushroom
- 207. Rosemary
- 208. Sage
- 209. Shitake mushroom
- 210. Tarragon
- 211. Thyme

Vegetable Seed Identification

- 300. Artichoke seed
- 301. Asparagus seed
- 302. Banana squash seed
- 303. Carrot seed
- 304. Celery seed
- 305. Coated seed
- 306. Cole crop seed
- 307. Cucumber seed
- 308. Lettuce seed
- 309. Onion seed
- 310. Parsley seed
- 311. Parsnip seed
- 312. Pea seed
- 313. Pepper seed
- 314. Radish seed
- 315. Snap bean seed
- 316. Spinach seed
- 317. Table beet seed
- 318. Tomato seed
- 319. Zucchini seed

Vegetable Crop Weeds Identification

- 400. Annual bluegrass
- 401. Annual sowthistle
- 402. Barnyardgrass
- 403. Bermudagrass
- 404. Black mustard
- 405. Black nightshade
- 406. Bristly oxtongue
- 407. Burning nettle
- 408. California burclover
- 409. Chickweed
- 410. Cocklebur
- 411. Common groundsel
- 412. Common knotweed
- 413. Common purslane
- 414. Common sunflower
- 415. Curly dock
- 416. Fiddleneck
- 417. Field bindweed
- 418. Filaree
- 419. Foxtail barley
- 420. Johnsongrass
- 421. Lambsquarter
- 422. Large crabgrass
- 423. London rocket
- 424. Malva
- 425. Miner's lettuce
- 426. Nutgrass
- 427. Pigweed
- 428. Pineappleweed
- 429. Prickly lettuce
- 430. Puncture vine
- 431. Russian thistle

CATA Curricular Activities Code

- 432. Scarlet pimpernel
- 433. Shepherds purse

Vegetable Crop Judging

- 435. Wild radish
- 436. Yellow mustard

Plants Intended for Transplanting

- | | |
|------------------------------------|---------------------------------|
| 500. Artichoke transplant | 509. Iceberg lettuce transplant |
| 501. Broccoli transplant | 510. Kale transplant |
| 502. Butterhead Lettuce transplant | 511. Onion transplant |
| 503. Cauliflower transplant | 512. Parsley transplant |
| 504. Celery transplant | 513. Pepper transplant |
| 505. Cilantro transplant | 514. Redleaf lettuce transplant |
| 506. Cucumber transplant | 515. Romaine lettuce transplant |
| 507. Eggplant transplant | 516. Squash transplant |
| 508. Greenleaf lettuce transplant | 517. Tomato transplant |

Vegetable Crop Insect and Pest Identification

- | | |
|-----------------------|--------------------------------------|
| 600. Aphid | 613. Lygus bug |
| 601. Cabbage looper | 614. Nematode |
| 602. Click beetle | 615. Slug |
| 603. Corn earworm | 616. Snail |
| 604. Cutworm | 617. Soil grub |
| 605. Darkling beetle | 618. Squash bug |
| 606. Earwig | 619. Thrip |
| 607. Garden symphylan | 620. Western spotted cucumber beetle |
| 608. Grasshopper | 621. Western striped cucumber beetle |
| 609. Harlequin bug | 622. Western yellowstriped armyworm |
| 610. Japanese beetle | 623. Whitefly |
| 611. Leafhopper | 624. Wireworm larvae |
| 612. Leafminer | |

Evidence of Disease, Insect Damage and Market Defects (See I.D. Section)

- 700. Aphid
- 701. Bacterial Spot
- 702. Bolting
- 703. Edible Portion Sprouting
- 704. Mildew
- 705. Mosaic
- 706. Overmaturity
- 707. Rhizoctonia
- 708. Scab
- 709. Sclerotinia
- 710. Smut
- 711. Soft Rot
- 712. Tipburn
- 713. Veining

VETERINARY SCIENCE

Revised 6/2024

Purpose and Standards

The Veterinary Science event seeks to effectively prepare the students for the expectations of the animal health care and services (Veterinary Hospitals/Clinics, Grooming Facilities, Pet Stores, Kennels/Boarding Facilities, and Feed Stores) workplace. Workers seeking careers in the animal health care field must develop a high degree of knowledge, skill and ability to solve difficult problems. This event blends the testing of skills and knowledge required for careers in the animal science career pathway. California Career Technical Education Model Curriculum Standards addressed by this event include:

Foundation Standards: Listening and Speaking 1.1, 2.2c, 2.2f, 1.8, Technology 4.2, 4.6, Health and Safety 6.2, 6.5, Ethics and Legal Responsibilities 8.3, Leadership and Teamwork 9.1, 9.2, 9.3.

Animal Science Pathways: D1.3, D1.4, D3.1, D3.2, D4.1, D5.1, D6.1-D6.5, D9.1, D9.4, D10.1, D10.2, D11.1-D11.3.

Contestants

Teams consist of four members, with all four individual scores counting as the team score. All team members are eligible for individual awards.

State finals will consist of a preliminary round and a final round. The preliminary round will be held on Friday and the final rounds will be held the following day. To qualify for the final round, a team must be in the top 20 teams after the preliminary round. The preliminary round will consist of the Breed Identification, General Knowledge, and Identification Application Exams. The top 20 teams will be posted at the conclusion of the preliminary round tabulations. Preliminary round scores will be added to the final round on Saturday.

Classes

The contest will include:

	Class	Individual Points	Team Points
A.	Identification Tests		
	1. Equipment and Materials	120	480
	2. Parasites	40	160
	3. Breed identification	80	320
B.	Practicum #1	50	200
	Practicum #2	50	200
	Practicum #3	50	200
C.	General Knowledge Test (50 questions)	100	400
	Identification Application Test (25 questions)	50	200
	TOTAL POINTS	540	2160

Tie Breaker

1. Individual or team ties will be broken with highest General Knowledge test score, including the 50 points from the Identification Application Knowledge test questions.
2. If there still is a tie, it will be broken with highest Breed I.D. test score.
3. If there still is a tie, Individual or team ties will be broken with highest practicum score.

Sub-contest Awards

Sub-contest awards will be given for high teams and individuals in the following areas: Identification, Practicums, and Medical Math / Knowledge Test, Identification Application Test Questions.

Rules

- I. Contestants in this contest will be divided into groups. Only one group will be allowed at one site at one time. Only one member of a team shall be allowed in a group.
- II. A copy of any written exam and key shall be available upon request after the contest as per the General Rules.
- III. All equipment and practicum materials needed by the contestants will be available at the judging sites. Practicum supplies and materials need to be able to perform the task as outlined in the practicum rubric.
- IV. All contestants must fill out the official score sheets and will be graded according to the points shown on the score card.
- V. The contestants will be allowed 45 minutes at each test site for Equipment/Materials and Parasites/Breed Identification, to complete that section. The contestants will be allowed 60 minutes for both the General Knowledge Test and the Identification Application Test combined.– three rotations.
- VI. Three Practicums will be allowed 90 minutes for completion.
- VII. Identification Test (Time: Equipment/Materials = 45 minutes, Breed/Parasites = 45 minutes)
PowerPoint slides will be set at 15 seconds per picture, the PowerPoint will be ran through twice and the slides will be numbered.
 - A. Equipment and Materials can be picked at random from the approved California State Curricular Code List. Sixty items will be chosen for this contest. Two points for each correct answer.
 - B. Parasites/Microscope Items are to be picked from the California State Curricular Code list provided. The specie and location on the animal will be given. Twenty items will be used in the contest. Two points for each correct answer.
 - C. Students will identify forty animals from the approved California State Curricular Code list. Each correct answer will be worth two points.
- VIII. Practicums (Time: 90 minutes)
Practicums will consist of three from the list of current year practicums: Students will go in order from one practicum to the other until all contestants are finished in each group. The list of practicums will come from the list provided by the California FFA contest for Veterinary Science. There will be a three minute maximum time limit for each of the individual practicums. Practicum scenarios should be simple and not require complex calculations as this will cause a major slowdown in the contest schedule. LIVE ANIMALS ARE NOT ALLOWED TO BE USED FOR STUDENT SAFETY AND ANIMAL WELFARE ISSUES.

2024-2025 Practicum [9]

Administering a Subcutaneous Injection- Clinical
Preparing a Surgical Pack for Sterilization- Clinical
Removal of Sutures- Clinical
Fine Needle Biopsy - Clinical
Ear Notching for Identification of Piglets - Clinical
Restraint of the Small Dog for Jugular Venipuncture- Handling
Restraint of the Cat for Cephalic IV Catheter Placement- Handling
Applying a Nylon Dog Muzzle- Handling
Placing a Tail Tie- Handling

2025-2026 Practicum [10]

Administering Aural Medication- Clinical
Applying an Electronic Ear Tag - Clinical
Bandage Removal- Clinical
Filling a Syringe for Injection- Clinical
Surgical Site Preparation-Clinical
Haltering Ruminants- Handling
Restraint of a Rabbit- Handling
Restraint of a Dog for Cephalic Venipuncture- Handling
Restraint of the Cat in Lateral Recumbency for Femoral Venipuncture- Handling
Restraint of a Piglet - Handling

2026-2027 Practicum [10]

Swabbing a Lesion - Clinical
Administering Ophthalmic Medication- Clinical
Prescription Filling- Clinical
Applying Standing Wrap on a Horse - Clinical
Fecal Flotation with Fecalizers- Clinical
Haltering a Horse- Handling
Removing a cat from a cage and wrap in a fear-reduced manner- Handling
Restraint of the cat for Jugular Venipuncture- Handling
Lifting a Hind Foot of a Horse - Handling
Applying a Gauze Dog Muzzle- Handling

2027-2028 Practicum [9]

Cystocentesis in Companion Animals - Clinical
Administering an Intramuscular Injection- Clinical
Administration Oral Tablet/Capsule- Clinical
Opening a Surgery Pack- Clinical
Applying an Elizabethan Collar- Handling
Removing a dog from a floor level Cage to restrain for Lateral Saphenous Venipuncture-
Handling
Snare Restraint of the Pig- *Handling*
Applying a Lead Chain on a Horse Under the Chin - *Handling*
Applying a cat Muzzle- *Handling*

- IX. General Knowledge, Medical Math, and Identification Application Test (Time: 60 minutes)
- A. The written exam will consist of 75 multiple choice questions. Questions 1-40 will be multiple choice questions taken from the textbook titled: *Veterinary Assisting: Fundamental and Applications*. Vanhorn, Clark. ISBN:978-1-4354-5387-6. Questions 41-50 will be the medical math questions. Questions 51-75 will be the Identification Application Test Questions.
Veterinary Assisting: Fundamental and Applications. Vanhorn, Clark. ISBN:978-1-4354-5387-6
 - B. National FFA Medical Math Resource Sheet must be provided by the contest site as a resource for the exam (Source – National FFA)
FFA.org/SiteCollectionDocuments/Math%20Resource.pdf
 - C. Contest sites will use provided medical math question bank to create representative, but not identical, problems for each approved contest.
*Note: Bank of questions will be provided by September 1, 2018. Last year's top 5 coaches will make the math test bank. This will give contest host sites ample time to create the 10 questions.
 - D. Test will be generated using JudgingCard Form (refer to CATA website Curricular Code Page), including multiple choice, true/false and/or matching. Options for answers will be A, B, C, D, and E, with only 1 answer per line allowed on the sheet.
 - E. The test will be 75 questions in length with each question being worth 2 points each.
 - F. Identification Application Knowledge Questions can be administered by a slide show with the pictures and the questions/answers printed as part of the Test packet #'s 51-75. It can also have the pictures printed in the test itself provided the pictures are in COLOR. The contest host would develop these pictures and questions based from items that are included in the identification lists and the application answers should be content that can be found in the *Veterinary Assisting Textbook* used for the rest of the knowledge test.

o EXAMPLE: (Picture of a Brittany Spaniel)

o Question- Identify the dog in the picture and answer the following question:

What AKC group does this dog belong to?

- A- Non-Sporting
- B- Sporting
- C- Herding
- D- Toy



o EXAMPLE: (Picture of a Olsen Hegar Needle Holder)

o Question- Identify the tool in the picture and answer the following question:

What procedure would this tool most likely be used for?

- A- Holding open a surgical incision.
- B- Removing Sutures
- C- Suturing closed a surgical opening.



- D- Removing a foxtail from the ear.
- G. Students are allowed to have basic (non-programming) calculators for the test to the General Knowledge Test section.
- H. A copy of the test where students may have marked or shown math problem work should be returned to the coach after the contest per the general rules.
- I.

Parasite / Microscopic Identification List	
01	Blowfly (Family Calliphoridae)
02	Calcium oxalate crystals
03	Cat Warble (Genus Cuterebra)
04	Cocci (bacteria)
05	Coccidia (Genus Isospora or Eimeria)
06	Demodectic Mite (Genus Demodex)
07	Ear Mite (Family Psoroptidae; Genus Otodectes)
08	Eosinophils
09	Epithelial cells (urine)
10	Flea Larva (Genus Ctenocephalides)
11	Flea Tapeworm Egg* (Genus Dipylidium)
12	Flea Tapeworm Segment* (Genus Dipylidium)
13	Flea Tapeworm* (Genus Dipylidium)
14	Fleas* (Genus Ctenocephalides)
15	Giardia* (Genus Giardia)
16	Heartworm Adult* (Genus Dirofilaria)
17	Heartworm Microfilaria* (Genus Dirofilaria)
18	Hookworm Adult* (Family Ancylostomatidae; Genus Ancylostoma, Uncinaria, Bunostomum or Globocephalus)
19	Hookworm Egg* (Family Ancylostomatidae; Genus Ancylostoma, Uncinaria, Bunostomum or Globocephalus)
20	Horse Bots* (Genus Gasterophilus)
21	Horse Strongyles* (Family Strongylidae; Genus Strongylus)
22	Lice - Biting (Order Mallophaga; Genus Bovicola or Trichodectes)
23	Lice - Sucking (Order Anoplura; Genus Linognathus or Hematopinus)
24	Liver Fluke (Class Trematoda; Genus Fasciola, Fascioloides or Dicrocoelium)
25	Mosquito Adult (Family Culicidae; Genus Anopheles, Culex or Aedes)
26	Mosquito Larva (Family Culicidae; Genus Anopheles, Culex or Aedes)
27	Neutrophils

28	Platelets
29	Red Blood cell (Mammalian)
30	Red Blood cell (Avian)
31	Rod (bacteria)
32	Roundworm Adult* (Family Ascarididae or Toxocaridae; Genus Toxocara, Toxascaris, Ascaris, Parascaris or Neoascaris)
33	Roundworm Egg* (Family Ascarididae or Toxocaridae; Genus Toxocara, Toxascaris, Ascaris, Parascaris or Neoascaris)
34	Sarcoptic Mite (Family Sarcoptidae; Genus Sarcoptes or Notoedres)
35	Struvite crystals (triple magnesium phosphate)
36	Taenia Tapeworm Egg* (Family Taeniidae; Genus Taenia)
37	Taenia Tapeworm Segment* (Family Taeniidae; Genus Taenia)
38	Taenia Tapeworm* (Family Taeniidae; Genus Taenia)
39	Tick – American Dog (Family Dermacentor; Genus variabilis)
40	Tick – Black Legged Deer (Family ixodes; Genus scapularis)
41	Tick – Brown Dog (Family Rhipicephalus; Genus Sanguineus)
42	Tick – Lonestar (Family Amblyomma; Genus americanum)
43	Whipworm Egg* (Genus Trichuris)
44	Whipworm* (Genus Trichuris)
45	Yeast (cytology)

Equipment and Materials Identification List

01	Ambubag	50	Hoof knife
02	Anesthetic machines	51	Hoof rasp
03	Autoclave	52	IV administration set
04	Autoclave tape indicator	53	Laparoscope
05	Backhaus towel clamps	54	Laryngoscopes
06	Balling gun	55	Muzzle - basket
07	Bandaging material – ElastiCon	56	Muzzle - nylon
08	Bandaging material – roll gauze	57	Needle holder – Mayo-Hegar
09	Bandaging material – vet wrap	58	Needle holder – Olsen-Hegar
10	Bands (castration or docking)	59	Obstetrical chain and handle
11	Cat bag	60	Ophthalmoscope
12	Catch pole (dog snare)	61	Otoscope

13	Catheter – Butterfly	62	Pig tooth nippers
14	Catheter – IV	63	Radiology personal protective Equipment
15	Catheter – Tomcat urinary	64	Rectal prolapse ring -swine
16	Cautery	65	Rumen magnet
17	Centrifuge	66	Scalpel blade
18	Chemical indicator strips	67	Scalpel handle
19	Cold sterile tray	68	Scissors – Suture wire cutting
20	Dehorner - Barnes	69	Scissors – Utility Bandage
21	Dehorner - electric	70	Scissors – Lister bandage
22	Dental/Power floats	71	Scissors – Littauer suture removal
23	Dental scaler	72	Scissors – Mayo dissecting
24	Drench gun – small ruminant	73	Scissors - Metzenbaum dissecting
25	Ear Notcher	74	Silver nitrate sticks
26	Ear Tagger – Large Animal	75	Small animal oxygen cage
27	Elastrator	76	Snook ovariohysterectomy hook
28	Electronic ID Reader	77	Speculum – Equine
29	Elizabethan collar	78	Speculum – Frick/Bovine
30	Emasculators	79	Speculum – small animal oral
31	Endoscope	80	Speculum – vaginal
32	Endotracheal tubes	81	Squeeze chute
33	Fecal loop	82	Staple remover
34	Fecalyzers	83	Stethoscope
35	Feeding tube for small animals	84	Surgical drapes
36	Fetal extractor - calf	85	Suture needle – cutting
37	Forceps – Alligator	86	Suture needle – taper
38	Forceps – Allis tissue	87	Syringe – automatic, multidose
39	Forceps – Babcock tissue	88	Syringe – Luer Lock
40	Forceps – Brown-Adson thumb	89	Syringe – Slip Tip
41	Forceps – Crile	90	Tattooing instruments – small and large
42	Forceps - Kelly	91	Tonometer
43	Forceps – Halstead mosquito hemostatic	92	Tourniquet
44	Forceps – Rochester Carmalt	93	Trocar and cannula
45	Forceps – Rat tooth thumb	94	Twitch - chain
46	Gravity feeder/J tube	95	Twitch - humane
47	Head gate		

48	Hog snare			
49	IV Fluid Bag			

CATA Curricular Activities Code

DOGS				CATS	
Herding Group		Terrier Group		60	Abyssinian
01	Australian Cattle Dog	33	Bull Terrier	61	American Shorthair
02	Australian Shepherd	34	Cairn Terrier	62	Burmese
03	Border Collie	35	Parson Russell Terrier	63	Maine Coon
04	Collie	36	Scottish Terrier	64	Manx
05	German Shepherd Dog 236	37	West Highland White Terrier	65	Persian
06	Old English Sheepdog			66	Ragdoll
07	Pembroke Welsh Corgi	Toy Group		67	Russian Blue
08	Shetland Sheepdog	38	Cavalier King Charles Spaniel	68	Siamese
		39	Chihuahua	69	Sphynx
Hound Group		40	Miniature Pinscher		
09	Afghan Hound	41	Papillon	BIRDS	
10	Basenji	42	Pekingese	11	African Gray Parrot
11	Basset Hound	43	Pomeranian	12	Canary
12	Beagle	44	Toy Poodle	13	Cockatiel
13	Black and Tan Coonhound	45	Pug	14	Cockatoos
14	Bloodhound	46	Shih Tzu	15	Love Birds
15	Dachshund	47	Yorkshire Terrier	16	Macaw
16	Greyhound			17	Parakeet
17	Rhodesian Ridgeback	Working Group		18	Sun Conure
		48	Bernese Mountain Dog	19	Zebra Finch
Non-Sporting Group		49	Boxer		
		50	Doberman Pinscher	REPTILES	
18	Bichon Frise	51	Great Dane	20	Ball Python
19	Boston Terrier	52	Great Pyrenees	21	Bearded Dragon
20	Bulldog	53	Mastiff	22	Burmese Python
21	Chinese Shar-Pei	54	Newfoundland	23	Chameleon
22	Chow Chow	55	Portuguese Water Dog	24	Corn Snake
23	Dalmatian	56	Rottweiler	25	Gecko
24	Poodle	57	Saint Bernard	26	Iguana
		58	Siberian Husky		
Sporting Group		59	Standard Schnauzer	POULTRY	
				27	Chicken – Cornish Cross Broiler
25	Brittany Spaniel			28	Chicken – White Leghorns
26	Cocker Spaniel			29	Chicken – Plymouth Rock
27	English Setter			30	Chicken – Rhode Island Red
28	German Shorthaired Pointer			31	Duck – White Pekin
29	Golden Retriever			32	Duck – Khaki Campbell
30	Irish Setter			33	Duck – Runner
31	Labrador Retriever			34	Geese – Embden
32	Weimaraner			35	Quail – Coturnix
				36	Turkey – Broad Breasted White

Breed/Species Identification List - Continued					
SMALL MAMMALS		HORSE		Swine	
35	Chinchilla	64	Appaloosa	90	American Landrace
36	Ferret	65	Arabian	91	Berkshire
37	Gerbils	66	Belgian	92	Chester White
38	Guinea Pig	67	Clydesdale	93	Duroc
39	Hamster	68	Morgan	94	Hampshire
40	Hedgehog	69	Paint	95	Yorkshire
41	Mouse	70	Percheron		
42	Rat	71	Quarter Horse		
43	Sugar Glider	72	Saddlebred		
		73	Tennessee Walking Horse		
		74	Thoroughbred		
RABBITS					
44	Angora				
45	Californian	GOAT			
46	Dutch	75	Alpine		
47	English Spot	76	Nubian		
48	Holland Lop	77	Angora		
49	Mini-Rex	78	Boer		
50	Netherland Dwarf	79	LaMancha		
51	New Zealand	80	Saanen		
		81	Toggenburg		
DAIRY CATTLE					
52	Ayrshire	SHEEP			
53	Brown Swiss	82	Columbia		
54	Guernsey	83	Dorper		
55	Holstein	84	Dorset		
56	Jersey	85	Hampshire		
		86	Merino		
BEEF CATTLE		87	Rambouillet		
58	Angus	88	Southdown		
59	Brahman	89	Suffolk		
60	Charolais				
61	Hereford				
62	Shorthorn				
63	Simmental				