CATA Curricular Code Change Proposal

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Contest:	Agronomy
Proposed by: (Name, School, Email)	Jonathan Moules/Rachel Pimentel/Matthew Terra, Escalon HS, - jmoules@escalonusd.org/rpimentel@escalonusd.org

Issue: (Describe the reason/rationale for the proposed change.)
Bring back 4 judging and reasons classes instead of only two. Update Scoring to match new classes. Not allow hay to be touched during contest due to students disturbing samples that can change the outcome of a class. Update crop and weeds where some are also in National Contest. Update Insect ID and Diseases/Disorders to match National FFA Contest. Add knowledge test to contest to replace grain grading from two years ago.

Please answer yes or no to ALL the questions below.

This proposal will require a contest to open out of rotation	No
The change will affect General Rules	No
The change will affect the awards needed.	No
Which JudgingCard scorecard will be used for tabulations.	708-4
The proposed change will affect contest forms.	No
The proposed change will affect contest hosting site. (e.g. additional facilities, new sections, additional scoring, etc.)	No

If you answered yes to any of the above questions, you need to include the following signatures: Click here for link to CDE Contest Advisor and Coordinator list.

CATA Approved Contest Advisor's Signature	
CDE Host Site Contest Coordinator's Signature agreeing that changes are able to be accommodated by the host site.	

If you answered yes to any of the above questions, please explain.

*It is highly recommended that you, or a representative, attend the pre-conference governing board meeting to answer any questions regarding proposed curricular code changes to contests that are requested to be opened out of rotation.

Description: (Describe what is changing.)

Add 4 judging and reasons classes. Update Scoring to match new classes. Not allow hay to be touched during contest. Update Crop and Weed ID where some are also in National Contest. Update Insect ID and Diseases/Disorders to match National FFA Contest. Add knowledge test to contest to replace grain grading from two years ago. Study material would come from the Western Region Certified Crop Advisors Exam Resources Webpage.

Proposed CATA Code Change: (Only include the section that the proposed change pertains to – do not include the entire contest. Reference numbered section. If editing text, show new text with old text in parenthesis. For large changes, set track changes in the Word document and attach the file, with edits, to this document when submitting.)

There are proposed changes on almost all pages, so we have attached the entire contest rules. All proposed additions/subtractions are identified in red.

Instructions for Submitting Curricular Code Change

- Make sure the form is complete.
- Download and Submit this document as a PDF
    - Click File → Download → Download as a PDF
- If your proposal requires signatures make sure to contact the contest advisor and contest host. **Tip:** Docusign, Doc Hub are great sources for digital signature requests.
    - Click Here for contest Host and Advisor List
- Email completed Curricular Change Proposal **PDF** to cata@calagteachers.org by June 1st.

Warning: Make sure you add all the topics or concerns you would like to discuss at the Curricular Code CDE meeting. If it's not posted on the CATA Curricular Code Changes website by June 1st, it **cannot** be discussed.

AGRONOMY

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
Judging Class 3	50	200
Judging Class 4	50	200
Reasons Class 1	50	200
Reasons Class 2	50	200
Reasons Class 3	50	200
Reasons Class 4	50	200
Agronomic Knowledge Test	100	400
Identification Part 1 (Plants)	300	1200
Identification Part 2 (Insects)	~~50~~ 100	~~200~~ 400
Identification Part 3 (Disorders)	~~50~~ 100	~~200~~ 400
TOTAL	1000	4000

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~~ Four 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~~ four 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.~~
   Contestants are not allowed to touch or disturb any hay samples in contest.

   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 palpability 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)~~ Sixty (60) 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~~ 5 points

VI. Insect Identification:
   A. ~~5~~ 10 specimens will be identified (~~50~~ 100 points).
   B. Host site will provide a curricular ID list for identification of insects

VII. Disorders and Diseases Identification:
   A. ~~5~~ 10 specimens will be identified (~~50~~ 100 points).
   B. Photo of disorders and diseases are allowed. No more than 50% of the samples can be photos.

VIII. Time:
   A. Judging - placing ~~tow (2)~~ four 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)~~ four classes. Reasons will be given on Alfalfa Hay.
   C. Identification: ~~Fifty (50)~~ Sixty (60) minutes will be allowed for:
      1. The identification of the seed and plant specimens
      2. Insects
      3. Disorders and Diseases

XI.Agronomic Knowledge Test – Multiple Choice Questions
   A. Students will be allowed 30 minutes to complete a multiple choice test of 25 questions. Each question will be worth 4 points each. Questions will address the topics of plant science/crop management, soil and water management, and Nutrient/fertilizer management. Up to three questions will focus on math solutions. Each question will be worth four points each for a total value of 100 points. Resources for the test will be available at the Western Region Certified Crop Advisor (WRCCA) Exam Resource page, which is located at https://wrcca.org/wrcca-exam.
   B. The math questions can be related to fertilizer rates, seeding rates, plant population, and acreage calculation. Contestants are expected to know common conversions such as square feet/acre and pounds/ton.

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
	Milo	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
	EDIBLE SEED LEGUMES	
	BEANS	
112	Black bean	Phaseolus vulgaris
	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

Code	Common Name	Botanical Name
123	**OATS**	Avena sativa
124	**BARLEY**	Hordeum vulgare
	FORAGE LEGUMES	
125	Alfalfa	Medicago sativa
126	Alsike clover	Trifolium hybridum
127	Bird’s foot trefoil	Lotus corniculatus
128	Common vetch	Vicia sativa
129	Crimson clover	Trifolium incarnatum
130	Ladino clover	Trifolium repens
131	Purple vetch	Vicia atropurpurea
132	Red clover	Trifolium pratense
133	Rose clover	Trifolium hirtum
134	Strawberry clover	Trifolium fragiferum
135	Subterranean clover	Trifolium subterraneum
136	White sweet clover	Melilotus alba
	FORAGE GRASSES	
137	Dallisgrass	Paspalum dilatatum
138	Hardinggrass	Phalaris tuberosa var. stenoptera
139	Orchardgrass	Dactylis glomerata
140	Prarie brome	Bromus catharticus
141	Tall fescue	Festuca arundinacea
	Timothy	Phleum pratense
	MISCELLANEOUS CROPS	
142	Canola	Brassica napus
	Cotton	Gossypium spp.
143	Flax	Linum usitatissimum
144	Hog millet or Proso millet	Panicum miliaceum
145	Lentils	Lens culinaris
146	Peanuts	Arachis hypogaea
147	Rye	Secale creale
148	Safflower	Carthamus tinctorius
149	Sesame	Sesamum indicum
150	Soybean	Glycine max
151	Sunflower	Helianthus annuus
152	Triticale	Triticasecale
	GREEN MANURE CROPS	
153	Buckwheat	Fagopyrum esculentum
154	Field peas	Pisum sativum
155	Radish	Raphanus raphanistrum subsp. sativus
156	Small seeded horsebean	Vicia faba

Code	Common Name	Botanical Name
157	Sour clover or Annual yellow sweet clover	Melilotus indicus
	CALIFORNIA NATIVES	
	California Milkweed	Asclepias californica
	California Poppy	Eschscholzia californica
	Yarrow	Achillea millefolium
	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) Poa annua
	Annual stinging nettle	(B) Urtica urens
201	Annual sowthistle	(B) Sonchus oleraceus
202	Black mustard	(B) Brassica nigra
203	Black nightshade	(B) Solanum nigrum
	Broadleaf filaree	(B) Erodium botrys
204	~~Broadleaf plantain~~	~~(B) Plantago major~~
205	~~Buckhorn plantain~~	~~(B) Plantago lanceolata~~
206	California burclover	(B) Medicago polymorpha
207	~~California poppy~~	~~(B) Eschscholzia californica~~
208	Common chickweed	(B) Stellaria media
209	~~Common fiddleneck~~	(~~B) Amsinckia intermedia~~
210	Common groundsel	(B) Senecio vulgaris
211	Dandelion	(B) Taraxacum officinale
	Goosegrass	(B) Eleusine indica
212	Hairy (or Large) crabgrass	(B) Digitaria sanguinalis
	Horseweed	(B) Conyza canadensis
213	~~Jimsonweed~~	~~(B) Datura stramonium~~
214	London rocket	(B) Sisymbrium irio
215	Mayweed chamomile	(B) Anthemis cotula
216	Nettleleaf goosefoot	(B) Chenopodium murale
	Palmer amaranth	(B) Amaranthus palmeri
	Pineappleweed	(B) Chamomilla suaveolens
	Poison hemlock	(B) Conium maculatum L.
217	Prickly lettuce	(B) Lactuca serriola
218	Prostrate knotweed	(B) Polygonum aviculare
219	Prostrate pigweed	(B) Amaranthus blitoides

Code	Common Name	Botanical Name
220	~~Red brome~~	~~(B) Bromus rubens~~
221	~~Red sorrel~~	~~(B) Rumex acetosella~~
222	Redroot pigweed	(B) Amaranthus retroflexus
223	Redstem filaree	(B) Erodium cicutarium
224	~~Shepherd's purse~~	~~(B) Capsella bursa-pastoris~~
	Stinging nettle	(B) Urtica dioica
	Tansy mustard or Flixweed	(B) Descurainia sophia
225	~~Turkey mullein~~	~~(B) Croton setigerus~~
226	White horehound	(B) Marrubium vulgare
227	Whitestem filaree	(B) Erodium moschatum
	Wild carrot	(B) Daucus carota
228	Wild mustard ~~or Charlock mustard~~	(B) Sinapis arvensis
229	Alkali mallow	Malvella leprosa
230	Barnyardgrass	Echinochloa crusgalli
231	Bearded sprangletop	Leptochloa fasicularis Leptochloa fusca ssp. fascicularis
232	Bermudagrass	Cynodon dactylon
233	Blessed milkthistle	Silybum marianum
234	Bristly oxtongue	Picris echioides
	Broadleaf plantain	Plantago major
	Buckhorn plantain	Plantago lanceolata
235	Catchweed bedstraw	Galium aparine
236	Cheeseweed or Little mallow	Malva parviflora
237	Clotbur	Xanthium spinosum
238	Cocklebur	Xanthium strumarium
239	Common fiddleneck	Amsinckia intermedia
	~~Common foxtail~~ Hare or wild barley	Hordeum murinum
240	Common lambsquarters	Chenopodium album
241	Common purslane	Portulaca oleracea
242	Common sunflower	Helianthus annuus
243	Curly dock or Sour dock	Rumex crispus
	Groundcherry	Physalis spp.
244	Hairy fleabane	Conyza bonariensis
245	Hairy nightshade	Solanum sarrachoides
246	Henbit	Lamium aplexicaule
	Jimsonweed	Datura stramonium
247	Italian ryegrass	Festuca perennis
248	~~Lanceleaved Groundcherry~~	~~Physalis lancifolia~~
	Red brome	Bromus rubens
249	Ripgut brome	Bromus rigidus
250	~~Russian thistle~~	~~Salsola tragus~~

Code	Common Name	Botanical Name
251	Shepherd's purse	Capsella bursa-pastoris
	Soft chess	Bromus mollis
252	Spotted spurge	Euphorbia maculata
	Tarweed	Hemizonia spp.
	Turkey mullein	Croton setigerus
253	Velvetleaf	Abutilon theophrasti
254	Wild oat	Avena fatua
255	Wild radish	Raphanus raphanistrum
	PROHIBITED NOXIOUS WEEDS	
256	Canada thistle	Cirsium arvense
	Coast sandbur	Cenchrus spinifex
	Perennial pepperweed	Lepidium latifolium
257	Russian knapweed	Acroptilon repens
258	Silverleaf nightshade	Solanum elaeagnifolium
	RESTRICTED NOXIOUS WEEDS	
259	Bull thistle	Cirsiui vulgare
260	Common St. Johnswort	Hypericum perforatum
261	Dodder	Cuscuta spp.
262	Field bindweed	Convolvulus arvensis
263	~~Field sandbur~~	~~Cenchrus incertus~~
264	Italian thistle	Carduus pycnocephalus
265	Johnsongrass	Sorghum halepense
266	Medusahead	Elymus caput-medusae
267	Nutsedge	Cyperus esculentus
		Cyperus rotundus
268	Puncturevine	Tribulus terrestris
	Russian Thistle	Salsola tragus
269	Yellow starthistle	Centaurea solstitialils

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 INDENTIFICATION (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		10 Alfalfa weevil, adult or larva
Economic Impact#		2		11 Aphid~~s~~
Life Cycle #		2		12 Armyworm adult
				13 Armyworm larva
Mouth part #		2		~~Assassin bug~~
2. ID #		4		14 Bean leaf beetle
Economic Impact#		2		15 Blister beetle ~~(Larva)~~
Life Cycle #		2		~~Blister beetle (Adult)~~
Mouth part #		2		16 Boll weevil
3. ID #		4		17 Chinch bug
Economic Impact#		2		18 Colorado potato beetle, adult or larva
Life Cycle #		2		19 Corn Earworm adult
				20 Corn Earworm larva
Mouth part #		2		21 Corn rootworm ~~larva~~ adult
				22 Corn rootworm larva
				23 Cutworm adult
				24 Cutworm larva
				25 European corn borer adult
				26 European corn borer larva
4. ID #		4		27 Field Cricket
Economic Impact#		2		28 Flea beetle
Life Cycle #		2		29 Grain weevil
Mouth part #		2		30 Grasshopper
5. ID #		4		31 Green lacewing
Economic Impact#		2		32 Honeybee
Life Cycle #		2		33 Imported cabbageworm
Mouth part #		2		34 Japanese beetle
Economic Impact				35 Lady beetle adult or larva
~~1~~ NP Beneficial, none or predatory				36 Leafhopper
				~~Leaf skeletonizer~~
~~2~~ F Fruit/Flower destruction				37 Mexican bean beetle, adult or larva
~~3~~ V Vegetative part destruction				~~Pink bollworm larva~~
IS Indicator Species				38 Saltmarsh caterpillar
~~4~~ R Removal of plant fluids				39 Scale
				40 Spider mite
Life Cycle				41 Spittlebug
C Complete				~~Spotted cucumber beetle~~
I Incomplete				42 Squash bug
N None				43 Stink bug
				44 Striped cucumber beetle

Mouth Parts ~~1~~ C Chewing ~~2~~ CL Chewing-lapping ~~4~~ PS Piercing-sucking ~~3~~ RS Rasping-sucking ~~5 Sp Sponging~~ 5 Si Siphoning				45 Trarnished plant bug / Lygus bug 46 Thrips 47 Tomato or tobacco hornworm ~~larva~~ ~~Western corn rootworm beetle~~ ~~Western flower thrip~~ ~~White grub~~ 48 Whitefly 49 Wireworm
Total Score:		~~50~~ 100		

Add 5 more Entries for a total of 10

**** Replace current Insect Identification worksheet with page 23 of the National FFA Agronomy Contest worksheet, using their Insect Identification.****

Insect List

	Insect	Economic Impact	Life Cycle	Mouth Parts
10.	Alfalfa weevil; adult or larva	Vegetative Part Destruction	Complete	Chewing
11.	Aphids	Removal of Plant Fluids	Incomplete	Piercing-Sucking
12.	Armyworm adult	~~Vegetative Part Destruction~~ Indicator Species	Complete	Siphoning
13.	Armyworm larva	Vegetative Part Destruction	Complete	Chewing
	~~Assassin bug~~	~~None or Predatory~~	~~Incomplete~~	~~Piercing-Sucking~~
14.	Bean leaf beetle	Fruit/Flower Destruction & Vegetative Part Destruction	Complete	Chewing
15.	Blister beetle ~~(larvae)~~	Vegetative Part Destruction	Complete	Chewing
	~~Blister beetle (adult)~~	~~Vegetative Part Destruction~~	~~Complete~~	~~Chewing~~
16.	Boll weevil	Fruit/Flower Destruction	Complete	Chewing
17.	Chinch bug	Removal of Plant Fluids	Incomplete	Piercing-Sucking
18.	Colorado potato beetle adult or larva	Vegetative Part Destruction	Complete	Chewing
19.	Corn earworm adult	Indicator species	Complete	Siphoning
20.	Corn earworm larva	Fruit/Flower Destruction & Vegetative Part Destruction	Complete	Chewing
21.	Corn rootworm adult	Fruit/Flower Destruction & Vegetative Part Destruction	Complete	Chewing
22.	Corn rootworm larva	Vegetative Part Destruction	Complete	Chewing
23.	Cutworm adult	Indicator species	Complete	Chewing
24.	Cutworm larva	Vegetative Part Destruction	Complete	Chewing
25.	European corn borer adult	Indicator species	Complete	Siphoning
26.	European corn borer larva	Fruit/Flower Destruction & Vegetative Part Destruction	Complete	Chewing
27	Field Cricket	Fruit/Flower Destruction	Incomplete	Chewing
28.	Flea beetle	Vegetative Part Destruction	Complete	Chewing
29.	Grain weevil	Fruit/Flower Destruction	Complete	Chewing
30.	Grasshopper	Vegetative Part Destruction	Incomplete	Chewing
31.	Green lacewing	None or Predatory	Complete	Chewing
32.	Honeybee	None or Predatory	Complete	Chewing-Lapping
33.	Imported Cabbageworm	Fruit/Flower Destruction & Vegetative Part Destruction	Complete	Chewing
34.	Japanese beetle	Fruit/Flower Destruction & Vegetative Part Destruction	Complete	Chewing
35.	Lady beetle adult or larva	None or Predatory	Complete	Chewing
	~~Leaf skeletonizer~~	~~Vegetative Part Destruction~~	~~Complete~~	~~Chewing~~
36.	Leafhopper	Removal of Plant Fluids	Incomplete	Piercing-Sucking
37.	Mexican bean beetle	Fruit/Flower Destruction & Vegetative Part Destruction	Complete	Chewing
	~~Pink bollworm larva~~	~~Fruit/Flower Destruction~~	~~Complete~~	~~Chewing~~
38.	Saltmarsh 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
	~~Spotted cucumber/Southern corn rootworm beetle~~	~~Fruit/Flower Destruction & Vegetative Part Destruction~~	~~Complete~~	~~Chewing~~
42.	Squash Bug	Removal of Plant Fluids	Incomplete	Piercing-Sucking
43.	Stink bug	Removal of Plant Fluids	Incomplete	Piercing-Sucking
44.	Striped cucumber beetle	Fruit/Flower Destruction & Vegetative Part Destruction	Complete	Chewing
45.	Tarnished plant bug – Lygus Bug	Removal of Plant Fluids	Incomplete	Piercing-Sucking
46.	~~Western flower thrip~~ Thrips	Fruit/Flower Destruction & Vegetative Part Destruction	Incomplete	Rasping-Sucking
47.	~~Tobacco/tomato~~ Tomato or tobacco hornworm ~~larva~~	Fruit/Flower Destruction & Vegetative Part Destruction	Complete	Chewing
	~~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

*** Replace current Insect List with pages 18 & 19 of the National FFA Agronomy Contest worksheet, using their Insect List. ***

Disorders and Diseases

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

Scorecard

	Member Answer	*Possible Points*	*Member score*	*Possible Answer*
1. Causal Cat. #		3		***Causal Category***
Agent#		4		~~C Cultural~~ B Biological
Plant Part Damaged #		3		~~B Biological~~ C - Cultural
				E Environmental
2. Causal Cat. #		3		
Agent#		4		***Agents***
Plant Part Damaged #		3		~~10 Fungus~~ B Bacteria
				~~11 Chemical~~ Ch Chemical
3. Causal Cat. #		3		~~12 Mechanical~~ Co Compaction
Agent#		4		~~13 Compaction~~ D Drought
Plant Part Damaged #		3		~~14 Nematodes~~ Fr Frost Damage
				~~15 Bacteria~~ Fn Fungus
4. Causal Cat. #		3		~~16 Insect~~ Ha Hail
Agent#		4		~~17 Nutritional~~ Ht Heat
Plant Part Damaged #		3		~~18 Drought~~ I Insect
				~~19 Pollution~~ L Lightening
5. Causal Cat. #		3		~~20 Flood~~ Me Mechanical
Agent#		4		~~21 Heat~~ Mo Moisture
Plant Part Damaged #		3		~~22 Virus~~ Ne Nematodes
				~~Nu Nutritional~~
Add 5 more Entries for a total of 10				P Pollution
				S Sun Scald
				V Virus
				W Wind Damage
				Parts of Plant Damaged
				1 ~~No Damage~~ Reproductive parts
				2 ~~Fruit or Flower~~ Vegetative parts
				~~3 Vegetative Parts~~
				3 Vascular Bundles
				4 More than one area
Total Score:		~~50~~ 100		

**** Replace current Disorders and Diseases Scorecard with page 20 of the National FFA Agronomy Contest worksheet, using their Agronomic Disorders Practicum Scorecard.****

****A new judging card answer sheet needs be created for the California Agronomy Contest. Other States such as Missouri have created their own (Form #708MO-3)****