CATA Curricular Code Change Proposal

Make a copy of this document. In order to input information.

Contest:	Agricultural Pest Control
Proposed by: (Name, School, Email)	Jennifer Charles-Tollerup, Butte College, charles-tollerupje@butte.edu

Issue: (Describe the reason/rationale for the proposed change.)
Curricular code currently standardizes the Host category of the Objective-Type exam but does not standardize the other two (2) categories: (1) Destructive Stage(s) and (2) Mouthparts. Proposed changes provide standards for all three (3) categories. In addition, spelling changes and uniformity among descriptors are proposed for correctness and clarity purposes.

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.	no
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.)

Addition of Destructive Stage(s) and Mouthparts lists similar to Host list. Spelling changes and uniform language usage proposed as well as italicized genus and species names as per the rules of nomenclature from the International Code of Zoological Nomenclature (https://www.iczn.org/the-code/the-code-online/).

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.)

Addition of Destructive Stage(s) and Mouthparts list to Section IV. Objective Type Exam. All text edits are included as Track Changes on the 2025 CATA Curricular Activities Code for Agricultural Pest Control.

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.

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.

Deleted: 04_C01

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: (1) an objective type examination on 30 insects of California and (2) 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. Both Common Name and Order must be written by the contestant as listed in the Curricular Activities Code for points to be given.
   C. Contestants must check the appropriate places on the scorecard for all destructive stages of the pest. Mouthparts of the most destructive stage will also be indicated by the contestant.
   D. Next to each specimen a list of 5 potential hosts numbered 1-5 to be entered on the scan form. *DISCUSSION POINT: (This does not align with the scorecard example below; discuss wording)*
   E. No partial points will be given on scorecard for incomplete answers or improper identification or misspelling.
   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. Mouthparts (5 Points)
      5. Host (5 Points) *(Section IV. I indicates one (1) host on scorecard)*
   G. Each specimen is worth a total of 30 points.
   H. No duplicate specimens may be used in the Objective-Type Exam. For example, "Cabbageworm" can only be used once in the exam.

Deleted:
Deleted: <#>Both common name and order must be written by the contestant as listed in the Curricular Activities Code for points to be given.¶
Formatted: Font: Italic
Formatted: Font: Italic
Deleted: c
Deleted: n
Deleted: P
Deleted: (s)
Deleted: (s)
Formatted: Font: Italic
Deleted: A total of 30 points can be given for each correctly identified specimen….
Deleted: 04_C01

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

Thrips - 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 perniclosus*

California Red Scale - *Aonidiella aurantii*

Brown Soft Scale - *Coccus hesperidum*

Black Scale - *Saissetia oleae*

Cottony Cushion Scale - *Icerya purchasi*

Formatted: Font: Italic
Formatted: Font: Italic
Formatted: Font: Italic
Formatted: Font: Italic
Deleted: *A*
Formatted: Font: Italic
Formatted: Font: Italic
Formatted: Font: Italic
Formatted: Font: Italic
Formatted: Font: Italic
Deleted: *H*
Formatted: Font: Italic
Formatted: Font: Italic
Formatted: Font: Italic
Formatted: Font: Italic
Formatted: Font: Italic
Formatted: Font: Italic
Formatted: Font: Italic
Formatted: Font: Italic
Formatted: Font: Italic
Formatted: Font: Italic
Formatted: Font: Italic
Formatted: Font: Italic
Formatted: Font: Italic
Formatted: Font: Italic
Deleted: 04_C01

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 – *Helicorerpa zea*
Alfalfa Looper - *Autographa californica*
Cutworm - Noctuidae (family)
Western Yellowstriped Armyworm - *Spodoptera praefica*
Saltmarsh Caterpillar - *Estiqmene acrea*
Diamondback Moth – *Plutella xylostella*
Obliquebanded Leafroller – *Choristoneura rosaceana*
Omnivorous Leafroller – *Platynota stultana*

Order: Coleoptera - Beetles and Weevils

Wireworm - Elateridae (family)
Alfalfa Weevil - *Hypera postica*
Bean Weevil - *Acanthoscelides obtectus*
Darkling Beetle – *Eleodes* sp.
Flea Beetle – *Epitrix cucmeris*
Granary Weevil - *Sitophilus granarius*
Sawtoothed Grain Beetle - *Oryzaedhilus surinamensis*
Shothole Borer – *Scolytus rugulosus*
Western Spotted Cucumber Beetle – *Diabrotica undecimpunctata*
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*

Formatted: Font: Italic
Deleted: 04_C01

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 – *Scutigerella immaculate*

I. Destructive Stage(s) List
J. Mouthparts List
K. Host: Contest coordinator must select five possible principle hosts from the list below with one being an actual host indicated on the scorecard. 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. *DISCUSSION POINT(Is the excact wording include all hosts listed for a specimen or only one (1)?)*

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
Thrips	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

Formatted: Font: Italic
Formatted: Font: Italic
Formatted: Font: Italic
Formatted: Font: Italic
Formatted: Font: Italic
Formatted: Font: Italic
Formatted: Font: Italic
Formatted: Font: Italic
Deleted:
Formatted: List Paragraph, Outline numbered + Level: 2 + Numbering Style: A, B, C, … + Start at: 1 + Alignment: Left + Aligned at: 0.5" + Tab after: 0.75" + Indent at: 0.75"
Deleted: Common
Formatted: Font: Italic
Deleted: 04_C01

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

Deleted: 04_C01

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; Order, life cycle, habits, hosts, beneficial importance.

Deleted: insects

Deleted: 04_C01

2. Quarantine/invasive insects: Order, 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: Order, 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%

DISCUSSION POINT: (Is there a definitions for "logic and force" and "bearing and address"?)

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

Deleted:
Formatted: Font: Italic
Formatted: Indent: Left: 0.4", No bullets or numbering

Deleted: 04_C01

Sample Scorecard:

Common Name
Order

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

Common Name
Order

Destructive Stage(s)	Mouthparts	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)	Mouthparts	Principle Host
Larva Nymph Adult	Chewing Rasping Sucking	Onions Garlic Beans

Deleted: ¶
¶
¶

Deleted: P
Deleted: (s)

Deleted: P
Deleted: (s)

Deleted: P
Deleted: (s)

Deleted: 04_C01

Adult Female	Sponging	Cole Crops Lettuce

Deleted: 04_C01