

Entomology Career Development Event (State Only)

Revised January 2006

PURPOSE

The purpose of the State FFA Entomology event is to develop students' knowledge and interest in the area of entomology.

EVENT DESCRIPTION

TEAM MAKE-UP

A team will consist of three or four members. A team score consists of the total of the top three individuals' scores.

I. OBJECTIVES

- A. To test the student's ability to:
 - 1. identify common Arizona insects and indicate their order, economic importance and other requested information.
 - 2. react to a written exam pertaining to insect anatomy, development, habits, economic importance, possible control, etc.
- B. To motivate learning in the classroom and create a spirit of competition among the students.
- C. To provide recognition for those individuals excelling in this area.
- D. To promote career awareness in entomology-related occupations.

II. COMPETENCIES

PS 9

- A. Classify common Arizona insects according to the mouth parts, types of metamorphosis, scientific classification, feeding behaviors and foods.
- B. Select appropriate insect sampling method and determine when insect control is economically necessary.
- C. Describe methods of applying cultural, biological and chemical controls to common Arizona insects.

III. GENERAL RULES

- A. The total possible score will be 200 points; including *identifications, (100 points) and a written examination, (100 points).*

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B. The event will be conducted as follows:

1. Identifications:

Twenty identifications will be made. Subjects will be chosen from the list given below. Each identification has a possible credit of five points, including; correct common name (two points); order, (one point); mouthparts, (one point); and, type of metamorphosis, (one point). Identifications may be based on actual specimens (adults or immature stages), samples of insect damage or other activity or slides or pictures of any of the above.

2. Written Examination:

This will be of the objective type and may include multiple choices, completions, recognition of true or false statements and labeling of diagrams.

Questions may cover:

- rudiments of insect anatomy (including mouthparts)
- insect development (metamorphosis)
- names and elementary recognition characters for the most common insect orders
- habits and economic importance of common pests and possible control measures.

Questions will be limited to subject matter in references cited below (or in duly publicized supplementary references).

C. List of Study Insects or Arthropods

The 20 insects (or near relatives) selected for the identification portion of this event will be chosen from the following list:

1. American cockroach
2. aphid
3. Arizona brown spider (relative of the brown recluse)
4. armored scale
5. assassin bug
6. bagworm
7. bark scorpion
8. big eyed bug
9. blister beetle
10. boll weevil
11. bollworm
12. brown banded cockroach
13. cabbage looper
14. cattle grub

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15. chewing louse
16. cicada
17. collops beetle
18. cotton leaf perforator
19. cottony cushion scale
20. cucumber beetle
21. cut worm
22. daddy longlegs
23. darkling beetle
24. dermestid beetle
25. dragonfly
26. damsel bug
27. earwig
28. field cricket
29. fig beetle (Green June beetle)
30. flea
31. flea beetle
32. German cockroach
33. grape leaf skeletonizer
34. grasshopper
35. honey bee
36. house fly
37. ichneumon wasp
38. katydid (long horned grasshopper)
39. lacewing
40. lady beetle
41. leaf footed plant bug
42. leaf hopper
43. leaf cutter bee
44. long horned wood boring beetle
45. lygus bug
46. minute pirate bug
47. mosquito
48. paper wasp
49. pink bollworm
50. praying mantis
51. red harvester ant
52. salt marsh caterpillar
53. silverfish
54. spider mite
55. stink bug
56. sucking louse
57. syrphid fly
58. tachinid fly

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59. termite
60. three cornered alfalfa hopper
61. thrips
62. tick
63. tomato horn worm/sphinx moth
64. walking stick
65. web spinners
66. whitefly
67. white grub
68. wolf spider

IV. REFERENCES

- *What Insect is That*, by E. Jon Deswaard. (Available from American Education Publication, Education Center, Columbus, Ohio 43216).
- *Insects for Core Curriculum*. Resource Unit No. 7, Department of Agricultural Education, University of Arizona, 1970.
- *Insect Pests*. George S. Fichter. A Golden Nature Guide. 1966. Golden Press, New York.
- *A Field Guide to the Insects of America North of Mexico*. Donald J. Borror and Richard E. White. The Peterson Field Guide Series, 1970. Houghton Mifflin Company, Boston.
- *Insects: A Guide to Familiar American Insects*. Herbert S. Zim and Clarence Cottam. A Golden Nature Guide, 1956. Golden Press, New York.
- Due to continuous changes in materials dealing with insects and their control, it is suggested that the individual teacher secure the latest up-to-date publications dealing with insects and their control from the local County Extension Office.
- Availability of slide series for identification of insects and arthropods from Agricultural Education Department, The University of Arizona.
- *Insects in the System*. May Berenbaum
- *Introduction to the Study of Insects*, Borrom Treplehorm and Johnson.
- *Insect Biology*, Noward E. Evans.

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- Life on a Little Known Planet, Noward E. Evans.
- Entomology and Pest Management, Larry P. Pedigo.
- The Science of Entomology, Romoser and Stoffolane.
- Insects of the Southwest, Werner and Olson.

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INSECT IDENTIFICATION

Participant's No. _____

Identification No.	Common Name Insect	Order	Mouthparts	Metamorphosis
1.				
2.				
3.				
4.				
5.				
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20.				

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ENTOMOLOGY EVENT

1. Acarina
tick (brown dog, ear, etc.)
spider mite

2. Araneida.
Arizona brown spider
Wolf spider

3. Anoplura
Sucking louse (body, crab)

4. Coleoptera
blister beetle
collops beetle
cucumber beetle
boll weevil
darkling beetle
dermestid beetle
fig beetle (green June beetle)
flea beetle
lady beetle
long horned wood boring beetle
white grub (scarab beetle larva)

5. Dermaptera
earwig

6. Diptera
cattle grub (warble fly, bot fly)
house fly
mosquito
syrphid fly
tachinid fly

7. Embioptera
web spinners

8. Hemiptera
assassin bug
big eyed bug (Geocoris)
damsel bug (nabid)
leaf footed plant bug
lygus bug
minute pirate bug (Orius)
stink bug (say, brown)

9. Homoptera
aphid
cicada
cottony cushion scale
armored scale
leafhopper
3 cornered alfalfa hopper
whitefly

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10. Hymenoptera	honey bee ichneumon wasp leaf cutter bee paper wasp red harvester ant
11. Isoptera	termite
12. Lepidoptera	bagworm bollworm cabbage looper cut worm cotton leaf perforator grape leaf skeletonizer pink bollworm salt marsh caterpillar tomato horn worm/sphinx moth
13. Mallophaga	chewing louse
14. Neuroptera	lacewing
15. Odonata	dragonfly
16. Orthoptera	American cockroach brown banded cockroach field cricket German cockroach Grasshopper katydid (long horned grasshopper) praying mantis walking stick
17. Phalangida	daddy longlegs (harvestman)
18. Scorpionida	bark scorpion
19. Siphonaptera	flea
20. Thysanoptera	thrips
21. Thysanura	silverfish