Novice Agronomy Contest

Revised: April 5, 2016 Reviewed 2021

I. Eligibility

- A. Read General Rules
- B. Two teams per county or a maximum of eight partcipants.

II. Procedures

The Agronomy Contest is composed of three sections:

A. Component Descriptions

a. Identification - 120 points (24 specimens at 5 points each)

Students will identify 10 plant specimens, 10 seed specimens, and 4 farm equipment specimens. Ideally, the plants should be live specimens and can represent any stage of development. However, they could be press mounts or photographs. Plant specimens should be equally divided between crop and weed plants. Each seed specimen must be real seed, no photographs of seeds. Seed specimens should be equally divided between crop and weed seeds. Specimens can only come from the ID list's provided. Each specimen will be worth five points.

Note: Some ID lists will include scientific names which are provided to assist in finding reference materials for proper specimen identification. Students are not required to know the scientific name for any New Mexico 4-H Agronomy Contest specimen!

(Answers will be recorded in the top Identification division on the back of the scantron using 1-48. Each specimen has an assigned number on its ID list. Use these numbers for scantron answers.)

b. Placing classes - 100 points (2 classes at 50 points each)

There will be two placing classes each having four samples. Students will rank the four samples in proper order based on quality, uniformity, and shelf life of each sample. One class will be representative of each of the following categories; grain crops (seed samples), forage crops (loose or baled hay or green chop), and fruit or vegetable crops (fruits, berries, leaves, tubers etc). Class specimens will only be chosen from the provided "Crops ID list". (Answers will be recorded in the placing classes portion of the scantron.)

c. Insect Identification – 30 points (3 specimens totaling 10 points each)

This component will consist of identifying insects. Students will identify three insects, (10 points each)

III. SCORING

Identification120 pointsPlacing Classes100 pointsInsect Identification30 points

Individual Score 250 points Team Score 750 points

IV. TIE BREAKER

Individual ties will be broken using the following tiebreakers.

- 1. Highest score on the Identification
- 2. Highest score on the Pest Identification
- 3. Highest score on the Placing classes

Team ties will be broken using the following tiebreakers.

1. High Individual

- all references are listed on the following pages -

V. REFERENCES (by component section)

Identification

- a. General Plant Identification resources.
 - **10. Field identification of the 50 most common plant families in temperate regions (including agricultural, horticultural, and wild species)** by Struwe, L.. Rutgers Univer sity, New Brunswick, NJ, USA. 2009. Published by the author, available at http://www.rci.rutgers.edu/~struwe/.
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(Powerpoint slides showing several specimens of crop plant and seed id and weed plant and seed id. Slides highlight distinguishing characteristics.)

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(This resource covers cucumber, pumkins, and squash. It includes information about plant and seed characteristics. It also shows photos and gives information about several of the insects on the Agronomy insect list.)

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(Covers stem, leaf, flower, and seed characteristics for alfalfa, Ladino clover, sweet clover, red clover, orchardgrass, tall fescue, timothy, and sudangrass.)

19. Seed ID Workshop, The Ohio State University, Ohio Agricultural Research and Development Center. 2009. *available at:* http://www.oardc.ohio-state.edu/seedid.

(photos for about half of the crops seed id specimens.)

c. Weeds plants and seeds identification resources

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(This is a great book describing the majority of the weed species in the west. It usually has a couple of photos and descriptive plant characteristics).

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- d. Entomology Insect Identification resources
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- **24.** One Hundred Common Insects of New Mexico by Richman, David B., Sutherland, Carol A., and Oseto, Y., New Mexico Cooperative Extension Service, November 1993. http://aces.nmsu.edu/pubs/circulars/CR570.pdf>
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(Great resource containing photos and descriptive information for most of the NM Agronomy listed insects).

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(Insects are sorted by Order. Photos and description of most of the NM Agronomy listed insects).

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(This resource has an extensive photo database for most any insect imaginable. This is primarly a photo site and does not include descriptive information.)

e. Equipment

There are no reference resources for this portion of the Agronomy CDE. A simple Google search for the items on the equipment list will provide the student with plenty of images and information for each equipment specimen.

Plant Common Name

	Plant Common Name
100	Alfalfa
101	Barley
104	Beans
105	Bermuda grass
107	Broccoli
108	Cabbage
109	Carrot
110	Cauliflower
111	Chile pepper
112	Clovers
117	Corn
122	Cotton
127	Lettuce
128	Mellons
131	Oats
134	Onion
135	Orchardgrass
136	Peanuts
138	Potato
141	Rye
142	Sorghum
145	Soybean
146	Spinach
147	Squash
148	Strawberry
149	Sudangrass
150	Beets
151	Sunflower
152	Sweet potato
153	Tall fescue
154	Timothy
155	Tomato
156	Wheat
200	Sowthistle (Annual or Prickly)
201	Barnyardgrass
202	Bull thistle
	

203

204

Canada thistle
Cheatgrass

Plant Common Name

	Traine Committee Traine
205	Common chickweed
206	Common cocklebur
207	Common lambsquarters
208	Common mallow
209	Common mullein
210	Common purslane
211	Common wild sunflower
212	Curly dock
213	Dandelion
214	Dodder
215	Field bindweed
216	Field sandbur
217	Flixweed/ Tansy mustard
218	Foxtail, green
219	Foxtail, yellow
220	Ground cherry
221	Horseweed (Marestail)
222	Jimsonweed
223	Johnsongrass
224	junglerice grass
225	Kochia
226	London rocket
227	Morning glory
228	Nutsedge
229	Palmer amaranth/Pigweed
231	Prickly lettuce
232	Prostrate spurge
233	Puncturevine
234	Quackgrass
235	Rescuegrass
236	Russian knapweed
237	Russian thistle
238	Shepardspurse
239	Silverleaf nighshade
241	Wild oats

Updated April 2015

Insect Common Name

400	Alfalfa weevil
401	Aphids
402	Armyworm
403	Assassin bug
404	Bean weevil
405	Blister beetle
406	Boll weevil
408	Colorado potato beetle
409	Corn earworm
410	Cricket
411	Cucumber beetle
412	European corn borer
413	Flea beetle
414	Grasshoppers
415	Honey bee
416	Japanese beetle
417	Lacewing
418	Lady beetle
419	Leaf hopper
420	Leafcutter bee
432	Leafminer fly
421	Mexican bean beetle
422	Pink boll worm
423	Plant bug (lygus)
430	Sawtooth grain beetle
407	Spider mites
425	Squash bug
426	Stinkbug
427	Thrips
428	Tobacco/ Tomato hornworm
429	Variegated cutworm
424	White fringed beetle
434	White grub
433	Whitefly

Metomorphosis (life cycle)

500	Simple (incomplete)
501	Complete
502	None

Mouth Parts

600	Chewing
601	Sucking
602	Combonation of sucking & chewing
603	None

Equipment Name

Equipment Nume
Air compressor/hose
Anemometer
Backpack sprayer
Baler
Bean Harvester head (for combine)
Bed mulcher
Bed shaper
Center pivot
Chemigation unit
Combine
Conveyor/elevator
Corn harvester head (for combine)
Cotton picker/stripper
Crop cultivator
Crop disc cultivator
Fertilizer broadcaster
Field shovel
Forage harvester
Gauge wheel
Grain auger
Grain moisture meter
Grain storage bin/dryer
Hay rake
Hearing protection
Hitch pin
Hoe
Hydraulic hose
Liquid manure/fertilizer spreader
Manure spreader (dry)
Module builder
Moldboard plow
Mower
Nozzle bodies (flood, flat fan, cone)

Equipment Name

	· ·
333	Pea harvester
334	Peanut digger
335	Plow (soil chisel)
336	PPE (all equipment)
337	Press wheel
338	Pressure gauge
339	Pressure regulator
340	PTO shaft
341	Rotary hoe
342	Seed plate
343	Soil probe
344	Soil thermometer
345	Sprayer
346	Swather
347	Sweep net
348	Tensiometer
349	Tractor
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102	Bean, Lima	152	Sweet potato
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109	Carrot	158	Wheat, Hard red spring
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138	Potato	230	Pigweed
139	Pumpkin	233	Puncturevine
140	Rice	234	Quackgrass
141	Rye	235	Rescuegrass
143	Sorghum, White grain	237	Russian thistle
144	Sorghum, yellow grain	239	Silverleaf nighshade
145	Soybean	241	Wild oats
149	Sudangrass	_	

<u>Updated April 2015</u>

Junior Agronomy Contest

Revised: April 5, 2016 Reviewed 2021

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c. Insect Identification – 60 points (3 specimens totaling 10 points each)

This component will consist of identifying insects. Additionally students will have to identify characteristics related to the individual insect. Students will identify three insects (10 points each) along with the following characteristics for each insect identified:

- a. Life cycle of each specimen (5pts.)
- b. Mouth part (5pts.)

III. SCORING

Identification120 pointsPlacing Classes100 pointsInsect Identification60 points

Individual Score 280 points Team Score 840 points

IV. TIE BREAKER

Individual ties will be broken using the following tiebreakers.

- 1. Highest score on the Identification
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145	Soybean
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Updated April 2015

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601	Sucking
602	Combonation of sucking & chewing
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Equipment Name

Equipment Nume		
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Anemometer		
Backpack sprayer		
Baler		
Bean Harvester head (for combine)		
Bed mulcher		
Bed shaper		
Center pivot		
Chemigation unit		
Combine		
Conveyor/elevator		
Corn harvester head (for combine)		
Cotton picker/stripper		
Crop cultivator		
Crop disc cultivator		
Fertilizer broadcaster		
Field shovel		
Forage harvester		
Gauge wheel		
Grain auger		
Grain moisture meter		
Grain storage bin/dryer		
Hay rake		
Hearing protection		
Hitch pin		
Hoe		
Hydraulic hose		
Liquid manure/fertilizer spreader		
Manure spreader (dry)		
Module builder		
Moldboard plow		
Mower		
Nozzle bodies (flood, flat fan, cone)		

Equipment Name

333	Pea harvester	
334	Peanut digger	
335	Plow (soil chisel)	
336	PPE (all equipment)	
337	Press wheel	
338	Pressure gauge	
339	Pressure regulator	
340	PTO shaft	
341	Rotary hoe	
342	Seed plate	
343	Soil probe	
344	Soil thermometer	
345	Sprayer	
346	Swather	
347	Sweep net	
348	Tensiometer	
349	Tractor	
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137	Peas	228	Nutsedge
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139	Pumpkin	233	Puncturevine
140	Rice	234	Quackgrass
141	Rye	235	Rescuegrass
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