

Utah State FFA Agronomy CDE 2006

Name or Number: _____ FFA Chapter: _____

Team: _____ Score: _____

There are 243 points possible, two points for each question except for the judging, seed analysis, and insect identification. The break down follows:

10 general agronomy production (multiple choice) 5 general soils (multiple choice) 10 general pesticides (multiple choice and fill in the blank), 10 Questions on Fertilizers (multiple choice and fill in the blank) 30 weed identification 15 crop identification 10 seed identification 6 soil samples(2 points each)
1 class of crop/seed judging (10 points)
5 samples for seed analysis (10 points)
5 insects for identification (25 points)

Tie breaker: The 30 weed identification and then if needed, the seed identification will be used as tie breakers for individuals and teams.

General Crops Questions (Circle the best answer)

1. Utah State University Cooperative Extension does which of the following?
 - A. Determines safety requirements for crop protection labels
 - B. Seed certification
 - C. Provides non-credit education to the people of the state of Utah
 - D. B & C
 - E. None of the above
2. What plant component increases with age and lowers the plant digestive value?
 - A. % protein
 - B. % digestible fiber
 - C. Lignin
 - D. % fiber
 - E. C & D
3. Legumes such as Alfalfa have which of the following advantages?
 - A. Have a symbiotic relationship with bacteria
 - B. Have nodules on the roots for a nitrogen source
 - C. Supplies nitrogen to soil from the air
 - D. B&C
 - E. All of the above

4. Plants grow from which of following structures?

- A. Root hairs
- B. Buds or nodes
- C. Buds or nodules
- D. Leaves and stems
- E. All of the above

5. Which of the following label term(s) describes the proportion of crop seeds that will grow into a normal plant?

- A. % weed seed
- B. % pure seed
- C. % pure seed and % weed seed
- D. % germination

6. A Roundup Ready crop is one that?

- A. Releases Roundup into the soil around it stopping competitive weeds.
- B. The seed has been scarified to increase germination
- C. Has an inserted gene that allows it to survive being sprayed with Roundup
- D. Has a genetic resistance to insects
- E. Comes treated with Roundup

7. Farmer Brown wants to apply 100 lbs/acre of available Nitrogen to his pasture. He measures his pasture to be 108,750 square feet. How many acres of pasture does he have?

- A. 1 acre
- B. 10.9 acres
- C. 20.6 acres
- D. 2.5 acres
- E. .25 acres

8. Crop rotation provides which of the following benefits?

- A. Pest control
- B. Lower seed costs
- C. The need for fewer kinds of machinery
- D. A & C
- E. All of the above

9. To be valid a germination test must be done within what time frame.

- A. 6 months or less
- B. 1 year
- C. 2 years
- D. 5 years
- E. It depends on the crop

10. Farmer Brown wants to have 32,000 corn plants per acre. If his seed mortality rate is 5% how many seed per acre should he plant?

- A. 33,600
- B. 33,684
- C. 30,400
- D. 35,000
- E. 16,000

Soils

11. Which of the following causes soil compaction?

- A. Traffic on wet soil
- B. Deep ripping
- C. Irrigation
- D. Adding gypsum
- E. All of the above

12. Soils in Utah are generally described as:

- A. Acidic and Alkaline
- B. Low in organic matter and salt
- C. Alkaline and saline
- D. Having deep top soil horizons
- E. B&C

13. Which of the following is true of soils?

- A. Soil forms rapidly replacing itself every year.
- B. Clay soils hold less water than sandy soils
- C. Salt can be removed from soil by reducing irrigation
- D. Soil fertility is affected by pH
- E. All of the above

14. A soil test recommends adding phosphorus to a field. Which fertilizer(s) could you use?

- A. 34-0-0
- B. 0-0-60
- C. 0-45-0
- D. Manure
- E. C&D

15. Soil properties are determined by which of the following?

- A. The parent material or rock they are made of.
- B. The age or weathering of minerals
- C. Color
- D. A & B
- E. All of the above

Pesticides

16. What type of pesticides are absorbed by the plant and moved within it?

- A. Contact pesticides
- B. Soil fumigants
- C. Spray Adjuvants
- D. Systemic pesticides
- E. All of the above

17. A selective herbicide:

- A. Kills plants in the area where it is applied
- B. Kills only the roots of a plant.
- C. Kills some plants without killing others.
- D. Is the most popular herbicide on the market.
- E. All of the above

18. Spiders are different from insects in that:

- A. They eat other insects and insects don't.
- B. They produce webs and insects don't .
- C. They have eight legs and two distinct body segments.
- D. They have dates with Little Miss Muffet.
- E. All of the above

19. The label on a pesticide product:

- A. Should be read and understood before use
- B. Contains legal jargon that only an attorney needs to read
- C. Should be read completely regardless if understood
- D. Is required by law only to have mixing instructions and a listing of active ingredients
- E. Does not need to be available during use

20. A restricted use pesticide:

- A. Is restricted because of cost.
- B. Can be used by someone without a license under direct supervision of someone with a license
- C. Can only be used by government agencies
- D. Can be purchased by someone with a business license.
- E. None of the above

Use the provided pesticide label to answer the following questions.

21. This Pesticide is Restricted use Due to _____ and _____

22. The two key warning words for this pesticide are _____ - _____

23. What should be done to gloves after using the product and before removing them?
_____ of gloves.

24. What is the REI or reentry interval for this product? _____ hours

25. How many applications per season can this product be applied to Alfalfa? _____

Fertilizers

26. In Utah, which government agency checks fertilizer bags and tests fertilizer to determine if it is legal for sale?

- A. Utah State Health Department
- B. United State Department of Agriculture
- C. Utah State Department of Commerce
- D. Utah Department of Agriculture and Food
- E. All of the above

27. Farmer Brown wants to apply 1 lb/1000ft² of available Nitrogen to his 2000ft² lawn. If he purchases a yard and garden fertilizer 16-16-8, how much total product will he need for his lawn?

- A. 16 lbs
- B. 32 lbs
- C. 2 lbs
- D. 12.5 lbs
- E. 1.25 lbs

28. Which of the following are considered important plant Micronutrients?

- A. Copper
- B. Manganese
- C. Zinc
- D. Iron
- E. All of above

29. Phosphorus can become unavailable to plants to uptake because:

- A. High pH converts phosphorus to a water insoluble forms.
- B. Phosphorus dissolves in water and can be leached
- C. Phosphorus can become unavailable at warm soil temperatures
- D. B & C
- E. All of the above

30. Soil testing for Nitrogen has special handling requirements because:

- A. Nitrogen is toxic to the soil handler
- B. Nitrogen can change forms and become unavailable to test.
- C. Nitrogen can vaporize in the air losing test reliability
- D. B & C
- E. All of the above

Questions 92-99 (2 points each)

Farmer Brown wants to plant 30 acres of corn for grain this spring. He has a medium growing

season and plans on a normal yield goal of 140 bushels. He plowed out a stand of alfalfa this fall and came to you to determine if he needs to apply phosphorus. Fill out questions 92-97 on the soil test sheet provided then complete questions 98 and 99 with the interpretation and phosphorus recommendations on the provided test results using Table 3.4.

Utah State FFA Agronomy CDE 2006

Name or Number: _____ FFA Chapter: _____

Team: _____ Score: _____

Crop/Seed Judging

Seed Class

Identify the sample and identify the for best sample for seeding a barley crop (2 Point each)

- 100. _____ Clean seed good Quality
- 101. _____ Poor seed, weeds present
- 102. _____ Noxious weed present
- 103. _____ Oats
- 104. _____ Other crop seed present

Crop Judging

Identify Sample of crop and rank 1st – 3rd

- 105. _____ Uniform, appropriate maturity and size free from disease or blemish
- 106. _____ Uniform size, blemished
- 107. _____ Blemish or disease