

# National FFA 2014 Agronomy Career Development Event

## Written Test

50 multiple choice questions

Select the best answer

1. The term sustainable agriculture means:
  - a. an integrated system of plant and animal production practices
  - b. a method to satisfy human food and fiber needs
  - c. a way to enhance the quality of life for humans and society as a whole
  - d. all the above
  
2. The Conservation Reserve Program (CRP) is designed to:
  - a. control the amount of agricultural commodities produced
  - b. reduce soil erosion and improve air and water quality
  - c. increase the amount of recycled materials from the nations farms and ranches
  - d. improve the hunting areas in rural America
  
3. Cotton used in fine clothing is \_\_\_\_\_ cotton.
  - a. Upland
  - b. Pimm
  - c. Messa
  - d. Southern
  
4. The cotton plant is a/an:
  - a. annual
  - b. winter annual
  - c. biennial
  - d. perennial
  
5. Confectionary and oil are the two types of :
  - a. soybean
  - b. sunflower
  - c. safflower
  - d. canola

6. Most ink is processed from:

- a. flax
- b. canola
- c. corn
- d. soybean

7. Linseed oil is produced from:

- a. flax
- b. mustard
- c. sugar beets
- d. lentils

8. Of the following, which plant could be considered a weed?

- a. soybean
- b. cotton
- c. sunflower
- d. all the above

9. The plant structure that develops because of a fertilized flower on the peanut plant is called a:

- a. stolon
- b. corm
- c. peg
- d. boll

10. Most sugar sold in the United States comes from:

- a. sugar cane
- b. high fructose corn syrup
- c. stevia
- d. sugar beets

11. Which of the following types of peanuts is commonly processed for peanut butter?

- a. Virginia
- b. Runner
- c. Spanish
- d. Valencia

12. Defoliation is a common pre-harvest practice on:

- a. wheat
- b. corn
- c. cotton
- d. soybeans

13. Good Agricultural Practices (GAPs) at the farm level ensure:

- a. the farm is profitable
- b. no chemicals or synthetic fertilizers are used
- c. modern technology is used in production of crops and livestock
- d. the farm is producing food safe for human consumption

14. GAPs are monitored by:

- a. the individual farm
- b. FSA – Farm Service Agency
- c. NRCS – National Resource & Conservation Service
- d. the state department of agriculture

15. Before planting a fresh produce crop an important GAP to consider is:

- a. labor
- b. control of animals
- c. amount of credit needed
- d. salinity of the irrigation water

16. Which of the following groups of crops have no federal crop insurance:

- a. oilseed
- b. small grains
- c. corn
- d. perishable vegetables

17. Ginned cotton is cotton that has :

- a. flowered
- b. had the seed removed
- c. open bolls
- d. been pruned

18. Which of the following two states raise the majority of the sunflowers in the United States?

- a. Illinois/Indiana
- b. Arizona/New Mexico
- c. Colorado/Nebraska
- d. North Dakota/South Dakota

19. Red root pigweed is a member of the \_\_\_\_\_ family.

- a. Poaceae
- b. Brassicaceae
- c. Chenopodiaceae
- d. Amaranthaceae

20. The solanaceae family of plants is informally known as the \_\_\_\_\_ family.

- a. nightshade family
- b. fabaceae family
- c. legume family
- d. goosefoot family

Margie is applying 36-0-0-10 fertilizer broadcast and 10-48-0 thru her drills to her 320 acres of Dark Northern Spring wheat. Her application rate is 200 lbs. per acre of the 36-0-0-10 and 20 lbs. per acre of the 10-48-0. Cost of the 36-0-0-10 is \$450/ton and the 10-48-0 costs \$600/ton. Use the information provided to answer questions 21 thru 25.

21. How many pounds of nitrogen is Margie applying per acre?

- a. 36
- b. 72
- c. 74
- d. 46

22. How many pounds of phosphorus is Margie applying per acre?

- a. 0
- b. 9.6
- c. 48
- d. 96

23. How many tons of 36-0-0-10 should Margie order?

- a. 8
- b. 16
- c. 32
- d. 64

24. How many pounds of sulfur were applied per acre?

- a. 10
- b. 20
- c. 30
- d. 40

25. What is the total cost of the fertilizer for all 320 acres?

- a. \$1,920
- b. \$14,400
- c. \$ 11,575
- d. \$16,320

26. What is the basic ingredient for all phosphorus fertilizer?

- a. sulfuric acid
- b. phosphoric acid
- c. rock phosphate
- d. green acid

27. Leaching of nitrogen is most likely to occur in what soil type?

- a. silty clay soil
- b. clay soil
- c. compacted soil
- d. sandy soil

28. Initial phosphorus deficiency symptoms on plants are best characterized by:

- a. purpling of lower leaves
- b. purpling of upper leaves
- c. yellowing of lower leaves
- d. yellowing of upper leaves

29. How many pounds of potash are in two tons of 15-10-5 fertilizer?
- a. 183
  - b. 200
  - c. 120
  - d. 160
30. The particle which has the greatest influence on the soil's ability to hold nutrients is:
- a. sand
  - b. silt
  - c. clay
  - d. loam
31. Organic forms of nitrogen and other nutrients contained in manures, legumes, and other organic materials become available to plants how?
- a. immediately after incorporation
  - b. only during the first growing season
  - c. only in the materials are disked in the wet ground
  - d. over time, after decomposition of the organic material
32. A fertilizer spreader has an application width of 5 feet. An area 100 feet long is used for calibration of a 25-5-5 fertilizer. If 5 pounds of fertilizer is collected from this calibration area, what is the rate of potassium that is being applied per 1,000 square feet with this spreader?
- a. 0.24
  - b. 0.30
  - c. 0.50
  - d. 0.42
33. The vast majority of commercial nitrogen fertilizer is derived from what form of N?
- a. organic N thru mineralization
  - b. urea
  - c. ammonia
  - d. nitrate

34. Green manuring is defined by which of the following statements?
- The practice of growing crops to a certain vegetative stage and then incorporating them into the soil.
  - The practice of intercropping legumes in grass stands
  - The practice of applying animal manure into the soil
  - The practice of planting different crops in strips within a given field
35. What is the primary role of phosphorus in plant growth?
- enzyme activation
  - stomata regulation
  - energy transfer and storage
  - carbohydrate metabolism
36. Eutrophication, from excess fertilizer nutrients, will ultimately lead to:
- a beautiful flower garden
  - lack of oxygen and fish kill in a lake
  - leggy plants that do not flower and produce
  - plants that are more susceptible to disease and lodging
37. You need to apply 54 pounds of phosphorus fertilizer per acre to the fairways of a golf course. If you have available a 0-12-0 fertilizer, how many pounds of that grade fertilizer will you need to apply for each acre of fairway?
- 120 lbs./acre
  - 360 lbs./acre
  - 400 lbs./acre
  - 450 lbs./acre
38. Corn is an example of a:
- dicot
  - monoecious plant
  - dioecious plant
  - legume
39. Which of the following plants are able to symbiotically fix nitrogen?
- cotton
  - popcorn
  - canola
  - peanuts

40. A stolon can be found on which of the following plants?

- a. cabbage
- b. peas
- c. Kentucky Bluegrass
- d. strawberry

41. Which of the following plants is an example of a biennial?

- a. bull thistle
- b. red clover
- c. pigweed
- d. alfalfa

42. The growth of a plant toward any stimulus is called:

- a. tropism
- b. hormones
- c. receptors
- d. vernalization

43. A mixture of proteins that gives bread its elastic texture is:

- a. glucosinates
- b. gluten
- c. amino acids
- d. omega 3's

44. Corn gluten is often used for:

- a. livestock or pet feed
- b. organic pre-emerge weed control
- c. both a and b
- d. none of the above

45. Which of the following plants is not grown for oil production?

- a. flax
- b. peanuts
- c. corn
- d. barley

46. Which of the following definitions best describes the leaf margin:

- a. the surface of the leaf
- b. the stem attached to the leaf
- c. the vein structure in the leaf
- d. the edge of the leaf

47. An example of a beneficial insect is:

- a. alfalfa weevil
- b. aphid
- c. grasshopper
- d. green lacewing

48. Which of the following insecticides is approved for use on organic crops?

- a. *Baccillus thuringiensis* (BT)
- b. Baythroid
- c. Lorsban
- d. None of the above

49. Which of the following nitrogen sources can not be used in organic crop production?

- a. Chilean nitrate
- b. fish meal
- c. urea
- d. blood meal

50. Which of the following types of herbicides cause epinasty in tomatoes and other broadleaves?

- a. ACCase inhibitors (Assure II, Select)
- b. ALS inhibitors (Accent, Raptor)
- c. Synthetic auxins (Banvel, 2,4-D)
- d. HPPD inhibitors (Balance, Callisto)