

## National FFA Agronomy CDE Written Test 2017

1. You are spraying your customer's lot in town with an insecticide to control aphids. The lot is 10,890 square feet. The insecticide you are using states a maximum of 18 oz. per acre. If you use the maximum rate of application, how many ounces of the insecticide could you use?
  - a. 18
  - b. 4.5
  - c. 9
  - d. 12
2. Which of the following have chewing mouth parts?
  - a. earwigs
  - b. adult moths
  - c. leafhoppers
  - d. aphids
3. An adjuvant is:
  - a. a type of disinfectant for pruners
  - b. in the pyrethroid chemical class
  - c. a spreader sticker or other application enhancer
  - d. a type of biological control for certain weeds
4. Which of the following pesticides can be absorbed by the plant and translocated within the plant?
  - a. contact
  - b. systemic
  - c. adsorptive
  - d. volatile
5. Knowledge of the stages in a pest life cycle, insect or disease, is important because:
  - a. not all stages cause damage or warrant control
  - b. stages vary in their susceptibility to control strategies
  - c. not all stages look alike
  - d. all the above

6. Keeping crops or desired plants vigorous, healthy, and competitive with weeds is an example of a \_\_\_\_\_ type of weed control.

- a. mechanical
- b. chemical
- c. biological
- d. cultural

7. Established perennial weeds are more difficult to control than annual weeds because:

- a. perennial weeds start growth earlier in the spring than annual weeds
- b. perennial weeds are not sensitive to most herbicides
- c. perennial weeds are much bigger than annual weeds
- d. perennial weeds have stored energy reserves that can support plants when stressed

8. Which of the following soil types would contain a type of expansive clay that is cracked part of the year?

- a. vertisols
- b. histosols
- c. inceptisols
- d. peptosols

9. Mycotoxins are poisonous chemical compounds sometimes found in grain samples. They are produced by:

- a. bacteria
- b. viruses
- c. nematodes
- d. fungi

10. In wheat, Feekes' developmental stage 10, or in the "Boot" refers to the stage when the:

- a. head is about to appear
- b. seedling emerges
- c. head of wheat is ripe
- d. second node appears on the stem

11. Safflower and sunflower are in the:

- a. cucurbit family
- b. composite family
- c. nightshade family
- d. legume family

12. One of your customers has asked your company to spray his fallow ground in the spring to kill the early weeds and volunteer wheat from last years' crop. He plans to no-till seed this land in the fall. The land he wants sprayed is 1 mile X 1 mile. Your company will use a glyphosate product at a rate of 20 ounces per acre and an adjuvant at a rate of 4 ounces per acre. How many gallons of glyphosate will be used on this land?

- a. 100
- b. 128
- c. 640
- d. 1,280

13. If the adjuvant costs \$35 for 1 gallon. What is the total cost of the adjuvant for spraying the land in question 12?

- a. 20
- b. 35
- c. 70
- d. 700

14. As you walk thru your field you notice a slight twist to some plant leaves and a slight turn of the main stem on several plants, but only once in a while. The most probable cause of this is:

- a. too much moisture
- b. too little moisture
- c. herbicide residue
- d. excessive potassium

15. Phytotoxicity is best defined as damage from:

- a. the sun
- b. chemicals
- c. water
- d. insects

16. Which of the following insect stages is generally the most damaging?

- a. larva
- b. egg
- c. adult
- d. pupa

17. The yellowing of green plant tissue is commonly referred to as:

- a. blight
- b. chlorophyll
- c. chlorosis
- d. scab

18. Openings in leaves and stems through which gases and moisture pass are called:

- a. spores
- b. stomata
- c. mycelium
- d. inoculum

19. A juvenile form of an insect that undergoes simple metamorphosis is called a :

- a. pupa
- b. larva
- c. nymph
- d. predator

20. Aphids, going from one plant to the next spread bacterial diseases throughout the field. In this scenario the aphid is a:

- a. vector
- b. toxin
- c. pathogen
- d. parasite

21. Broadleaf plants:

- a. reproduce by rhizomes
- b. tend to have parallel leaf veins
- c. are rarely a weedy problem in agriculture
- d. have two seed leaves

22. The three sides of the disease development triangle are host, pathogen and:

- a. antigen
- b. environment
- c. moisture
- d. heat

23. What soil structure would be typical for a good seed bed?

- a. granular
- b. blocky
- c. platy
- d. massive

24. Contact herbicides:

- a. generally translocate from roots to leaves
- b. do not control most established perennial weeds species unless applied repeatedly
- c. usually do not cause visible symptoms on susceptible weeds until after several days
- d. all the above

25. Rhizobium bacteria cause:

- a. mold growth and toxins in wet corn
- b. falling numbers in grading wheat
- c. nitrogen fixation in legumes
- d. nematode populations to increase

26. \_\_\_\_\_ has a spike type of inflorescence:

- a. oats
- b. barley
- c. peas
- d. carrot

27. Which of the following crops reproduce asexually:

- a. strawberry
- b. timothy
- c. sugar beets
- d. flax

28. Insects are capable of emitting a chemical that will influence the behavior of another insect of the same species. These chemicals are called:

- a. pyrethroids
- b. glucosinolates
- c. glucosamines
- d. pheromones

29. Of the following factors, which one is NOT used to determine grain grades?

- a. heat damage
- b. foreign material
- c. moisture
- d. smell

30. Which of the following farming practices would yield the largest amount of carbon sequestration over the very long term?

- a. continual no-till grain operation
- b. a 10 year CRP contract
- c. traditional cultivation methods
- d. a crop rotation including hay for a period of 4 years

31. An example of a predatory insect is:

- a. green lacewing
- b. corn earworm
- c. lady beetle
- d. both A and C

32. Of the following practices, which one is important to follow to insure the safety of pollinating bees:

- a. avoid unnecessary insecticide use
- b. use low hazard insecticide formulations
- c. time spray applications when bees are inactive
- d. all the above

33. Chemical drift problems can be reduced by:

- a. lowering pressure and decreasing the nozzle orifice
- b. Increasing pressure and increasing the nozzle orifice
- c. spraying upwind of a sensitive area and leaving an untreated border
- d. placing a spray boom as close to the target as possible

34. The upper level of the water-saturated zone in the soil is called the:

- a. water table
- b. aquifer
- c. groundwater
- d. surface water

35. The signal word on pesticide labels, i.e. warning, hazard, indicate its:

- a. effectiveness
- b. toxicity
- c. compatibility
- d. carcinogenicity

36. The most common route of pesticide exposure leading to poisoning is:

- a. skin
- b. inhalation
- c. thru the eyes
- d. by swallowing

37. Which of the following describe the dodder plant:

- a. parasitic
- b. no leaves
- c. no chlorophyll
- d. all the above

38. Your neighbor is raising carrot seed for a large seed company. He plants the carrot seed in March of 2017. When should he expect to harvest the carrots for seed?

- a. in September of 2017
- b. in September of 2018
- c. in March of 2019
- d. in September of 2019

39. Which of the following plants is considered a perennial?

- a. wheat
- b. corn
- c. alfalfa
- d. beans

40. A recent soil test indicates you need to apply 80 pounds of nitrogen to reach your yield goals for your crop. If you use a fertilizer with 46% nitrogen, how many pounds of fertilizer do you need to apply per acre?

- a. 17
- b. 47
- c. 147
- d. 174

41. Field bindweed has a:

- a. simple leaf
- b. palmate leaf
- c. pinnately leaf
- d. pinnately compound leaf

42. The term sustainable agriculture means:

- a. an integrated system of plant and animal production practices having a site-specific application
- b. a method to satisfy human food and fiber needs
- c. a way to enhance the quality of life for farmers and society as a whole
- d. all the above

43. Tropism is the reaction:

- a. a plant has to growth hormones
- b. to cold temperatures that cause flowering
- c. of a plant to any stimulus
- d. to certain chemicals, both organic and synthetic

44. Leaching of nitrogen is most likely to occur in which of the following soil type?

- a. sandy
- b. clay
- c. silty clay
- d. loamy

45. The most common type of peanut grown in the U. S. is the:

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

46. Linseed oil is processed from:

- a. corn oil
- b. flax
- c. soybeans
- d. canola oil

47. Cotton seeds, canola and soybeans are all crushed and used for their oil. After the oil is removed, the remaining or spent seed material is called:

- a. hummus
- b. mulch
- c. grit
- d. meal

48. Of the following insects which one is most likely to develop insecticide resistance because of multiple generations per year?

- a. alfalfa weevil
- b. cricket
- c. aphid
- d. grasshopper

49. An example of a GAP, or, Good Agricultural Practices is:

- a. control of animals in your fields
- b. a highly skilled labor force
- c. the use of modern technology in fertilizer application
- d. wise use of government programs through the FSA

50. A practice used in some crops to dry foliage before harvest is called:

- a. mineralization
- b. dry down
- c. chemical desiccation
- d. fallowing