

Area Crops Exam 2014

Instructions: Read each multiple-choice statement carefully and then mark the answer on the score sheet that corresponds to the best answer. You may use a calculator and the yellow Corn and Soybean Field Guide on this part of the contest.

- All of the following are adapted to somewhat poorly drained soils except
 - Timothy
 - Orchardgrass
 - Red Clover
 - Sweetclover
- Farmer Jacob has a field of corn with a grayish cast to it. Upon closer examination he finds that the leaves have ragged holes in them and even appear shredded in some places. There is a silvery slime trail on the leaves. What pest causing this damage?
 - grasshopper
 - slug
 - corn flea beetle
 - corn leaf aphid
- Corn growth and maturation is most affected by:
 - temperature
 - day length
 - light intensity
 - the angle of the sun
- Soybean growth and maturation is most affected by:
 - temperature
 - day length
 - light intensity
 - the angle of the sun
- A label reads that a herbicide should be placed at 0.25 lbs of active ingredient per acre. If there are 28 ounces of active ingredient per gallon of herbicide, you would need to add one gallon of this herbicide for every _____ acres.
 - 5
 - 6
 - 7
 - 8
- Farmer Kristen plans to utilize her dairy cattle waste to fertilize her crops. How much total nitrogen (pounds/ton of raw waste) can she expect from that fertilizer source?
 - 8
 - 9
 - 10
 - 11
- What is the gallons per minute (GPM) output per nozzle required to broadcast a herbicide at 13 gallons per acre (GPA), using a nozzle spacing of 5 feet and a ground speed of 10 mph?
 - 0.096
 - 0.109
 - 0.969
 - 1.313

8. How many bushels of corn will fit in a grain bin that is 25 feet wide, 30 feet to the eave and 480 inches tall at the top of the cone?
- 7,084 bu.
 - 70,841 bu.
 - 13,118 bu.
 - 8,396 bu.
9. Which type of wheat is most likely to be found in your spaghetti?
- Durum Wheat
 - Soft Red Winter Wheat
 - White Wheat
 - Hard Red Winter Wheat
10. Which of the following nozzle type is suggested mostly for insecticides and fungicides?
- Flooding Flat
 - Hollow Cone
 - Flat Fan
 - Even Flat Fan
11. Corn smut is caused by
- Insects
 - Bacteria
 - Virus
 - Fungus
12. A 75% leaf loss due to hail at the 9 leaf stage causes ____ average yield loss on your corn crop this year.
- 6%
 - 7%
 - 10%
 - 25%
13. To reduce soil erosion on steep slopes it would be better to plant what type of pasture?
- Soybean would be better to stop soil erosion
 - Mixed pasture of legumes and grasses
 - Pure stand pasture of clover
 - Pure stand pasture of legumes
14. What is the optimum plant population of Soft Red Winter Wheat?
- 30-35 plants per square foot
 - 35-40 plants per square foot
 - 40-45 plants per square foot
 - 45-50 plants per square foot
15. Lime is used _____.
- as a potassium source and to lower the pH
 - as a potassium source and to raise the pH
 - as a magnesium source and to lower the pH
 - as a magnesium source and to raise the pH

16. The selectivity of a herbicide is a measure of the
- time it will remain active in the soil
 - toxicity to humans
 - species of weeds it will control
 - its ability to stay on target (i.e. not drift, etc.)
17. Winter-hardness, rust resistance, plant height, and Hessian fly resistance are all characteristics you will find when you are selecting to plant which of the following crops?
- Alfalfa Varieties
 - Corn Hybrids
 - Wheat Varieties
 - Soybean Varieties
18. Farmer Gary planted alfalfa this year in one of his fields. He notices after a few mornings of freezing temperatures some of his plants are falling over and lying on the ground. Which of the following is a logical reason for this issue?
- The wildlife are stepping on all the alfalfa plants
 - The alfalfa plants are heaving
 - The alfalfa plants are infected by alfalfa wilt
 - An insect infestation has occurred. The insects have been eating the base of the stems
19. Farmer Drake harvested his soybeans and finds the moisture to be at 13.8%. How many pounds will he need to equal a bushel at 13% moisture?
- 60.00 lbs
 - 60.53 lbs
 - 60.56 lbs
 - 60.65 lbs
20. Farmer Lindsey is scouting her field in the spring and finds cold wet soils, her corn plants are stunted and have purple tips. Even though purple is her favorite color she does not like seeing it in her field. What may be the problem with her corn?
- Phosphorous deficiency
 - Stewart wilt
 - Anthracnose Leaf Blight
 - Manganese deficiency
21. If planning to plant no-till double-crop soybeans following wheat, when should the crops be fertilized?
- both crops need to be fertilized in the fall prior to wheat establishment
 - wheat needs to be fertilized in the fall prior to wheat establishment and soybeans directly after harvesting the wheat
 - wheat needs to be fertilized in the fall prior to wheat establishment and soybeans will not need fertilized because they will get nitrogen from the wheat which is a legume
 - soybeans need to be fertilized in the fall prior to soybean establishment while wheat will not need fertilized because they will get nitrogen from the soybeans which are legumes
22. What is the last Hessian fly free date in southern Indiana?
- October 4
 - October 9
 - October 12
 - October 15

23. Which of the following specialized underground stem used for storage and propagation and is commonly referred to as a potato?
- Bulb
 - Stolon
 - Rhizome
 - Tuber
24. Farmer Skylar is scouting his field of soybeans in late May to early June. Which of the follow might he expect to find?
- Japanese beetle
 - Wireworm
 - Grasshoppers
 - Green stink bug
25. If you had soil ranging from 5.5-6.5 which of the following minerals would likely be deficient in your soil?
- Copper
 - Boron
 - Phosphorous
 - Iron
26. Which of the following is a male part of a flower responsible for pollen production?
- Stigma
 - Filament
 - Anther
 - Style
27. Farmer Dakota harvested 238,970 lbs of corn from a 35 acre field after shelled. What was her yield (bushels per acre) for the field?
- 112
 - 106
 - 122
 - 90
28. A field of corn has a red to purple color and upon closer look by removing the upper leaves that the growing point is dead and rotten. This damage is most likely caused by _____ herbicide.
- Matador
 - Command
 - Cobra
 - Callisto
29. The Bray P₁ test is most helpful before purchasing _____ fertilizer for your soybean crop.
- Manganese
 - Nitrogen
 - Phosphorous
 - Potassium
30. If farmer Derek is calibrating his corn planter and is looking for 28,000 seeds per acre in 30 inch rows, what is should his spacing between kernels be in the row?
- 7"
 - 7.5"
 - 8"
 - 8.5"

31. Soybean varieties are frequently identified by their

- a. tendency to split
- b. seed size
- c. seed surface texture
- d. hilum color

32. Farmer Jacob discovers a weed problem in his field. The weed is a grass with a compressed sheath, hairy blade, no auricles, and a membranous ligule. What is the weed?

- a. Large Crabgrass
- b. Yellow Foxtail
- c. Quackgrass
- d. Witchgrass

Questions 33-35:

Farmer Kathleen received her soil test results in the mail. The Bray P_1 results showed 55 lb/ac available phosphorous. Exchangeable potassium was found to be 280 lb/ac soluble potassium. This area of the field is capable of 50 bu/ac soybeans in a good year. The soil type is a loam with a CEC of 10.

33. How many pounds of potassium need to be applied per acre?

- a. 45
- b. 40
- c. 90
- d. 0

34. How many pounds of nitrogen need to be applied per acre?

- a. 45
- b. 40
- c. 90
- d. 0

35. How many pounds of phosphorous need to be applied per acre?

- a. 45
- b. 40
- c. 90
- d. 0

36. Which of the following legumes would be best planted with orchardgrass in somewhat poorly drained soil?

- a. Alfalfa
- b. Red Clover
- c. Alsike Clover
- d. Hairy Vetch

37. Which of the following insects does not have a complete metamorphosis life cycle?

- a. Green Stink Bug
- b. Fall Armyworm
- c. Mexican Bean Beetle
- d. Wireworm

38. Farmer Brittany needs to find a forage to mix with her 4 cut alfalfa. Which of the following grasses would you recommend?
- a. Tall Fescue
 - b. Smooth Bromegrass
 - c. Timothy
 - d. Orchardgrass
39. The minimum till system of crop production
- a. usually reduces the insect and disease problems
 - b. is best adapted to lighter sandy soils
 - c. works best for early planting in heavy mulched soils
 - d. destroys soil structure
40. Of the following types of plants, which is most likely to propagate using modified stems such as stolons?
- a. Summer annuals
 - b. Winter annuals
 - c. Biennials
 - d. Perennials