

State Crops Exam 2015

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.

1. What is the proper seeding depth for Alfalfa?
 - a. 2 inches
 - b. 1 ½ inches
 - c. 1 inch
 - d. ½ inch

2. Which of the following is not one of the parts of the floret in a grass flower?
 - a. Lemma
 - b. Petal
 - c. Palea
 - d. Pistil

3. Which of the following crop rotations would you expect soil erosion rates to be smallest.
 - a. Soybean-Soybean
 - b. Corn-Corn
 - c. Corn-Soybean-Wheat-Hay
 - d. Corn-Soyben-Wheat

4. On a herbicide label, the word Iroxo would be considered which of the following?
 - a. trademark
 - b. trade name
 - c. common name
 - d. chemical name

5. The process that winter wheat has to go through before it will produce seeds is _____.
 - a. Vernalization
 - b. Hibernation
 - c. Winterization
 - d. Scarification

6. When scouting fields, _____ beetles are quickly recognized by their metallic green with bronze colored wing covers.
 - a. Japanese
 - b. Bean Leaf
 - c. Mexican Bean
 - d. Lady Bird

7. Which of the corn growth stages do silks appear and pollination occur?
 - a. V3
 - b. V4
 - c. R1
 - d. R6

8. A perfect flower is a:
 - a. flower that contains both pistil and stamens.
 - b. dioecious and monecious flower.
 - c. male sterile flower.
 - d. female flower capable of producing seeds or spores without a male flower.

9. Roots are different from stems as roots do not have:
- Rhizobia
 - Xylem
 - Cambium
 - Nodes
10. Which of the following nozzle tips would you use if you are working to control weeds and brush in your pasture?
- Hollow Cone
 - Flooding Flat
 - Broadcast
 - Flat Fan
11. The common bushel weight for wheat seed is _____ lbs.
- 32
 - 40
 - 52
 - 60
12. Which of the following grasses have a flat sheath, fringe of hairs on the ligule, the blade has long hairs near the base, and no auricles?
- Yellow Foxtail
 - Green Foxtail
 - Smooth Crabgrass
 - Large Crabgrass
13. Soybean growth and maturation is most affected by:
- temperature
 - light intensity
 - the angle of the sun
 - day length
14. What is the gallon per minute (GPM) output per nozzle required to broadcast a herbicide at 15 gallons per acre (GPA), using a nozzle spacing of 60 inches and a ground speed of 5 mph?
- 0.969
 - 0.875
 - 0.756
 - 0.695
15. Calculate the "Dry" bushels if you have 56,000 lbs. of grain at 31% moisture to be dried to 14% moisture.
- 870.64
 - 839.09
 - 815.78
 - 802.29
16. Caution should be considered when grazing sudangrass and forge sorghums due to which of the following?
- Prussic Acid Potential
 - The Endophyte Fungus
 - Low Digestibility
 - Auto-Toxicity
17. What is the maturity group for soybeans being planted in Indiana south of I-70 and north of US-50?
- I
 - II
 - III
 - IV

18. While scouting your field of corn you notice shortened internodes on some plants and interveinal striping on their leaves. You also notice the soil is cool and wet, low in organic matter, and compacted where these symptoms are occurring on plants. What is the possible nutrient deficiency?
- Nitrogen
 - Potassium
 - Boron
 - Zinc
19. The SCS (Soil Conservation Service of the USDA) uses the _____ method to measure crop residue in agricultural fields.
- Linear-transect
 - Calculation-weight
 - Photo Comparisons
 - Topography Maps
20. How many acres does Teagan have on her small hobby farm of 200 feet by 335 feet?
- 0.034
 - 0.158
 - 1.538
 - 15.38
21. Rhizobium nodules on legumes are healthy and active when _____ in color.
- Pink (streak colored)
 - Brown (tan)
 - Yellow
 - Green
22. Which of the following would you not expect to find while scouting a corn field in July?
- Corn Leaf Aphid
 - Grasshopper
 - Brown Stink Bug
 - Anthracoese leaf blight
23. Around how many bushels of corn would farmer Katie need to fill 15,200 cubic feet?
- 10,000
 - 12,000
 - 13,000
 - 14,000
24. CAUTION, WARNING, and DANGER are _____ and always found on the herbicide label.
- Toxicity Levels
 - Signal Words
 - Modes of Action
 - Both A and B
25. Farmer Natalie has found a large population of a weed but before she decides the course of action she must first identify the plant. The plant's true leaves are triangle in shape and have three main veins from the base. The cotyledons are long, narrow, and fleshy. The stem is spotted and rough. What is weed in her field?
- Common Ragweed
 - Common Cocklebur
 - Hedge Bindweed
 - Redroot Pigweed
26. Corn growth and maturation is most affected by:
- the angle of the sun
 - day length
 - light intensity
 - temperature

27. Farmer Kevin is reading a label that says to dilute the product to a final dilution of 1 part to 600 parts of water and his desired final spray volume is 25 gallons, how many liquid ounces of product will he need for 25 gallons of water?
- 8
 - 5.3
 - 4
 - 0.5
28. Which of the following insects is considered a beneficial organism (kills harmful pests to crops)?
- Grasshopper
 - Mexican Bean Beetle
 - Parasitic Wasp
 - Wireworm
29. Soybean varieties are frequently identified by their
- tendency to split
 - hilum color
 - seed surface texture
 - seed size
30. 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
31. Lime is used _____.
- as a magnesium source and to lower the pH
 - as a magnesium source and to raise the pH
 - as a potassium source and to lower the pH
 - as a potassium source and to raise the pH
32. A black layer at the base of a corn kernel, taken from an ear of corn, indicates:
- Weevil damage
 - Physiological maturity
 - Black-tip of corn
 - Disease
33. Soil temperatures tend to be _____ and soil moisture percentages tend to be _____ in conventional than in no-till fields.
- warmer, lesser
 - warmer, greater
 - colder, greater
 - colder, lesser
34. What is the percent of moisture for corn does it reach physiological maturity?
- 20%
 - 25%
 - 30%
 - 35%
35. What is the optimum plant population of Soft Red Winter Wheat?
- 45-50 plants per square foot
 - 40-45 plants per square foot
 - 35-40 plants per square foot
 - 30-35 plants per square foot

36. If you had soil ranging from 5.0-6.0 which of the following minerals would likely be deficient in your soil?

- a. Manganese
- b. Iron
- c. Phosphorous
- d. Boron

37. A 25% leaf loss due to hail at the 10 leaf stage causes ____ average yield loss on your corn crop this year.

- a. 1%
- b. 2%
- c. 3%
- d. 4%

Questions 38-40:

Farmer Ally received her soil test results in the mail. The Bray P₁ results showed 21 ppm available phosphorous. Exchangeable potassium was found to be 130 ppm soluble potassium. This area of the field is capable of 50 bu/ac soybeans in a good year. The soil type is a silt loam with a CEC of 10.

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

- a. 25
- b. 40
- c. 90
- d. 0

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

- a. 25
- b. 40
- c. 90
- d. 0

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

- a. 25
- b. 40
- c. 90
- d. 0