

State Crops Exam 2021 KEY KEY KEY

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. At what type of pH would the nutrient Manganese be most available to plants?
 - a. **Strongly acidic**
 - b. Very slightly acidic
 - c. Neutral
 - d. Strongly alkaline
2. When purchasing 0-60-0 fertilizer, you are getting what?
 - a. Nitrogen
 - b. **Phosphorus**
 - c. Potassium
 - d. Calcium
3. Which of the following is a specialized underground stem used for storage and propagation?
 - a. **Tuber**
 - b. Bulb
 - c. Rhizome
 - d. Stolon
4. Soybean growth and maturation is most affected by:
 - a. Temperature
 - b. **Day Length**
 - c. Light Intensity
 - d. Angle of the Sun
5. ~~A sprayer has a 90-degree spray angle. What should the nozzle height be set at?~~
 - a. ~~21 to 33 inches~~
 - b. ~~17 to 19 inches~~
 - c. **15 to 17 inches**
 - d. ~~10 to 12 inches~~
6. A field measures 817 ft by 982 ft. How many acres is the field?
 - a. 4.1 acres
 - b. 1.9 acres
 - c. **18.4 acres**
 - d. 20.1 acres
7. What causes lesions of bleached stem tissue to develop on lower stems and black sclerotia to develop on infected tissue?
 - a. Pod and Stem Blight
 - b. Phytophthora Root and Stem Rot
 - c. Frogeye Leaf Spot
 - d. **White Mold**
8. On average, how many days there between the R3 and R4 growth stage in soybeans?
 - a. 4 days
 - b. **9 days**
 - c. 10 days
 - d. 15 days

Question discarded, not enough information given to adequately answer.

9. What corn growth stage occurs 10-14 days after silking and results in the developing kernels to be filled with a clear fluid?
- Milk
 - Dough
 - Blister**
 - Dent
10. Corn growth and maturation is most affected by:
- Day length
 - Temperature**
 - Time of Sunrise
 - Light Intensity
11. When purchasing 60-0-0 fertilizer, you are getting what?
- Phosphorus
 - Nitrogen**
 - Potassium
 - Calcium
12. There are _____ acres in a square mile.
- 130
 - 520
 - 640**
 - 780
13. Farmer Joe is trying to estimate his soybean yield. He has determined his pod count is 300 and is assuming 2.5 seeds per pod. There has been adequate moisture late in the season, so Farmer Joe wants to use 18 as his seed factor size. What would an estimate yield be for Farmer Joe?
- 41.7 bushels/acre**
 - 55.5 bushels/acre
 - 35.7 bushels/acre
 - 48.6 bushels/acre
14. What problem would occur from fertilizer damage during germination?
- Swollen seeds
 - First leaf stunted
 - Poor root systems**
 - Dead spots are a bright straw color
15. At what stage of growth in soybeans do the margins of leaflets of the fifth trifoliolate no longer touch?
- V1
 - V5**
 - V3
 - R5

16. Smut in corn is caused by _____.

- a. Insect
- b. **Fungus**
- c. Weather
- d. Virus

17. What nozzle type should be used for controlling weeds in pastures, along fencerows, and along roadsides?

- a. **Broadcast**
- b. Hollow Cone
- c. Flooding Flat
- d. Flat Fan

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

- a. ~~25~~
- b. ~~40~~
- c. ~~**90**~~
- d. ~~10~~

Question discarded, not enough information given to adequately answer.

19. Soybean growth and maturation is most affected by:

- a. Temperature
- b. Light intensity
- c. **Day length**
- d. The angle of the sun

20. As you are scouting a field you discover a weed problem. The weed is a grass with a round sheath, short stiff hairs on the blade, no auricles, and a fringe of hair on the ligule. What is the weed

- a. Yellow Foxtail
- b. **Giant Foxtail**
- c. Smooth Crabgrass
- d. Large Crabgrass

21. What is the earliest Hessian fly-free date in the state of Indiana?

- a. September 1
- b. September 9
- c. September 25
- d. **September 22**

22. How many bushels of corn will fit in a grain bin that is 27 feet wide, 35 feet to the eave and 500 inches tall at the top of the cone?

- a. **17,087 bu.**
- b. 13,118 bu.
- c. 1,311 bu.
- d. 22,442 bu.

23. Which of the following is a female part of a flower responsible for pollen collection?
- Stigma**
 - Filament
 - Anther
 - Style
24. Gray Leaf Spot is caused by
- Insects
 - Virus
 - Bacteria
 - Fungus**
25. At what point in dent corn plant development are most of the kernels dented?
- R1
 - R3
 - R5**
 - VT
26. 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
27. What is the proper seeding depth for Alfalfa?
- 2 inches
 - 1 ½ inches
 - 1 inch
 - ½ inch**
28. Which of the following is not one of the parts of the floret in a grass flower?
- Lemma
 - Palea
 - Petal**
 - Pistil
29. A perfect flower is a:
- Dioecious and monecious flower
 - Male sterile flower
 - Flower that contains both pistil and the stamen**
 - Female flower capable of producing seeds or spores without a male flower
30. Which of the following would you not expect of find while scouting a corn field in July?
- Anthracoese Leaf Blight**
 - Corn Leaf Aphid
 - Grasshopper
 - Brown Stink Bug

31. CAUTION, WARNING, and DANGER are _____ and always found on the herbicide label.
- Toxicity Levels
 - Signal Words
 - Modes of Action
 - BOTH A and B**
32. Lime is used _____.
- As a magnesium source and to lower the pH
 - As a potassium source and to lower the pH
 - As a magnesium source and to raise the pH**
 - As a potassium source and to raise the pH
33. 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?
- Zinc**
 - Nitrogen
 - Potassium
 - Boron
34. 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?
- 0.756**
 - 0.969
 - 0.875
 - 0.695
35. Which of the following is not an environmental factor that can impact soybean yields?
- Soil Crusting
 - Leaf Spot**
 - Sunscald
 - Hail
36. Farmer Robert is getting ready to plant his corn field. He will be planting 28,000 seeds/Acre with 30-inch rows. How far apart should the kernels be planted from each other?
- 6.56 Inches
 - 7.5 Inches**
 - 9.2 Inches
 - 10.5 Inches
37. What is the maximum amount of lime that should be applied in any given season?
- 8 tons/acre**
 - 5 tons/acre
 - 6 tons/acre
 - 10 tons/acre

38. The minimum till system of crop production
- a. Destroys soil structure
 - b. **Is best adapted to lighter sandy soils**
 - c. Works best for early planting in heavy mulched soil
 - d. Usually reduces the insect and disease problem
39. How often should a stainless-steel nozzle have to be replaced?
- a. Never
 - b. **Every 3 to 5 years**
 - c. Annually
 - d. Every 10 to 15 years

40. Using the daily recorded temperatures from the weather station below, calculate GDDs for the week.

Day	Sun	Mon	Tues	Wed	Thurs	Fri	Sat
High	77	82	81	89	84	75	72
Low	54	56	62	70	68	48	51

- a. 968
- b. 560
- c. **134**
- d. 151