

North Carolina FFA Association

2019 State Agronomy Career Development Event Written Exam

INSTRUCTIONS: There are 25 questions on this section of the event. Read each question carefully. **Select the best answer and mark the answer on the scantron form.** Each question is worth four (4) points. You have **25 minutes** to complete this section of the event.

1. The movement of water and air in the subsurface soil layer is:
 - A. erosion
 - B. permeability
 - C. slope
 - D. structure
2. Which is a characteristic of sandy textured soils?
 - A. high moisture-holding capacity
 - B. high nutrient-holding capacity
 - C. low moisture-holding capacity
 - D. small packed together soil particles
3. To be classified as Class I, the land slope must be less than:
 - A. 2%
 - B. 5%
 - C. 8%
 - D. 10%
4. How many square chains equal an acre?
 - A. 1
 - B. 5
 - C. 10
 - D. 50
5. The measurement of a field in the shape of a triangle are: base = 1000 ft., height = 150 ft. The area of the field is how many acres?
 - A. 1.72
 - B. 3.44
 - C. 17.20
 - D. 34.40

| |
|---|
| $A = \frac{1}{2} (\text{base} \times \text{height})$ $43,560$ |
|---|

6. Wendy had problems getting wheat to grow in one area of her field. If she wants to send a soil sample to the laboratory to get recommendations to correct her problem, she should take cores or slices of soil from:
 - A. all the different areas
 - B. all the areas except one
 - C. the entire field
 - D. the problem area
7. Yellowing of the entire plant leaf and stunted growth are early indications of which nutrient deficiency on the crop?
 - A. boron
 - B. iron
 - C. nitrogen
 - D. phosphorus
8. Which nutrient is required to prevent blossom end rot in fruits?
 - A. calcium
 - B. cobalt
 - C. copper
 - D. magnesium
9. A soil test report indicates that a wheat crop needs 100 lbs. of 15-5-10 fertilizer per acre. The amount of phosphorus applied in lbs./acre is:
 - A. 5
 - B. 10
 - C. 20
 - D. 35
10. Water loss from leaf surface through evaporation is the plant process called
 - A. absorption
 - B. photosynthesis
 - C. respiration
 - D. transpiration
11. What type of flower has only male or only female flower parts?
 - A. asexual
 - B. complete
 - C. incomplete
 - D. pretty
12. Anchoring plants, storing food and absorbing water are functions of plant:
 - A. flowers
 - B. fruits
 - C. leaves
 - D. roots

13. Correct seeding rate for corn is important because rates that are too high will result in:
- A. bigger kernels
 - B. higher yields
 - C. increased costs
 - D. more weeds
14. What mechanical pest control procedure is used to control weeds?
- A. cultivation
 - B. fertilization
 - C. irrigation
 - D. spraying
15. Which crop needs little to no nitrogen fertilizer to produce high yields?
- A. corn
 - B. pasture
 - C. legume
 - D. grain
16. How does crop rotation reduce production costs?
- A. custom harvesting
 - B. insect control
 - C. machinery efficiency
 - D. marketing plan
17. Reduced yields, reduced quality, and spoilage are caused by:
- A. conventional tillage
 - B. plant pests
 - C. poor marketing
 - D. soil samples
18. If corn is harvested too late, there is a problem with:
- A. broken stalks
 - B. green stalks
 - C. high moisture
 - D. hot weather
19. If grains are harvested too early, there is a problem with:
- A. broken stalks
 - B. cold weather
 - C. high moisture
 - D. low moisture

20. Proper pest control may increase cost per acre, but an advantage will be:
- A. higher interest
 - B. higher yields
 - C. lower quality
 - D. lower yield
21. Plant roots take water from the soil through the process of:
- A. absorption
 - B. photosynthesis
 - C. reproduction
 - D. respiration
22. The most efficient tool for collecting soil samples from a field is a:
- A. countersink
 - B. soil probe
 - C. slotted screwdriver
 - D. garden hoe
23. A soil test report will include:
- A. cost of fertilizer
 - B. cost of lime
 - C. recommended planting time
 - D. suggested fertilizer rate
24. A soil test report with a pH of 7.2 would be:
- A. extremely acid
 - B. extremely alkaline
 - C. mildly acid
 - D. mildly alkaline
25. The three primary nutrients necessary for plant growth are:
- A. boron, calcium, and iron
 - B. chlorine, sulfur, and zinc
 - C. magnesium, manganese, and molybdenum
 - D. nitrogen, phosphorus, and potassium