

# 2007 State Crops Exam



Instructions: READ EACH MULTIPLE-CHOICE STATEMENT CAREFULLY AND THEN MARK THE ANSWER ON THE SCORE SHEET THAT CORRESPONDS TO THE BEST ANSWER. GOOD LUCK!

1. If you are buying 45-0-0, you are buying  
A. lime                    \*B. nitrogen            C. potassium            D. phosphorus            E. seed
2. Manure placed on crop fields will  
\*A. improve soil structure  
B. not loosen soil as much as adding sand  
C. compact the soil but provide plant food  
D. lower earthworm populations due to high chemical concentrations  
E. both A and B
3. Of the following, you would expect soil erosion rates to be the smallest on a \_\_\_\_\_ rotation.  
A. corn-corn  
B. corn-soybean-wheat  
C. soybean-soybean  
\*D. corn-soybean-wheat-hay
4. Of the following, \_\_\_\_\_ bu./A is a yield that would be typical of corn in Indiana.  
A. 40                    \*B. 155                    C. 340                    D. 640                    E. 1020
5. Of the following plants, \_\_\_\_\_ does **not** produce its own nitrogen.  
A. Hairy vetch  
B. Crownvetch  
C. Red clover  
\*D. Canola  
E. Birdsfoot trefoil
6. What factor contributes to increased yield and / or profit potential for corn planted early in central Indiana?  
A. lower cost of drying  
B. higher harvest index  
C. more solar radiation  
D. shorter plants (stronger)  
\*E. all of the above
7. Soybean growth and maturation is most affected by  
A. soil moisture  
B. the angle of the sun  
\*C. the length of darkness at night  
D. moon intensity

8. Paraquat is a contact herbicide extensively used on small grain stubble in preparation for double crop soybeans. This material is not effective against perennial weeds such as
- A. Giant ragweed
  - B. Sheperdspurse
  - \*C. Johnsongrass
  - D. Redroot pigweed
9. The selectivity of a herbicide is a measure of the
- A. herbicide's ability not to go off target (i.e. no drift, runoff, etc.)
  - B. toxicity to humans
  - C. time it will remain active in the soil
  - \*D. species of weeds it will kill or control
10. Dry soils are \_\_\_\_\_ to warm in the spring than wet soils.
- \*A. quicker
  - B. slower
  - C. no different
11. What is the most likely way to disperse weed seeds?
- A. wind
  - B. water
  - \*C. humans
  - D. animals
12. What is the approximate CEC range on silty clay loam soils?
- \*A. 15 to 30
  - B. 12 to 15
  - C. 10 to 12
  - D. 1 to 4
13. A field of corn has white leaves. This damage is most likely caused by \_\_\_\_\_ herbicide.
- A. Beacon
  - \*B. Callisto
  - C. Option II
  - D. Bleacher
14. Farmer Bradford is walking in a field of soybeans and finds a pod that is 3 cm on the fourth uppermost node with a fully developed leaf. What is the growth stage of the soybean field?
- \*A. R4
  - B. R5
  - C. R6
  - D. R7
15. Locally, optimum plant populations for soft red winter wheat is \_\_\_\_\_ plants/ft<sup>2</sup>.
- A. 10-15
  - B. 15-20
  - C. 20-25
  - \*D. 30-35
  - E. 45-50
16. The first step in pasture renovation is to
- A. seed with legumes
  - \*B. late summer/early fall overgrazing and soil testing
  - C. fertilizer with N-P-K
  - D. broadcast grass seed throughout the entire pasture
17. Farmer Mitch has a problem with a weed that contains heart shaped leaves, cotyledons that are butterfly-shaped, and the stem is hairy. What weed is it?
- A. velvetleaf
  - B. green foxtail
  - C. common buckwheat
  - \*D. tall morningglory

18. . On a well drained soil with good fertility and good moisture holding capacity, a(n) \_\_\_\_\_ forage mixture would be most productive.

- \*A. Alfalfa-Orchardgrass
- B. Alsike clover-Tall fescue
- C. Orchardgrass-Timothy
- D. White clover-Tall fescue

19. Which of the following grasses are best suited to being mixed into a 4 cut Alfalfa crop?

- A. Timothy
- B. Smooth brome grass
- \*C. Orchardgrass
- D. Cheat

20. Legume flowers characteristically have five petals, which consist of

- A. 2 standards, 2 wings, and 1 keel
- \*B. 1 standard, 2 wings, and 2 keels
- C. 2 standards, 1 wing, and 2 keels
- D. 1 standard, 2 calyx, and 2 corolla

21. The major difference between stems of sedges and grasses is

- A. grass stems do not have internodes
- \*B. sedge stems are triangular in cross section
- C. leaves do not originate from nodes in grass stems
- D. sedge stems are not green

22. Soybean varieties are frequently identified by their

- A. soybean height
- B. seed size
- C. pod color
- D. tendency to crack
- \*E. none of the above

23. If you have a hoop with a diameter of 30 inches, what factor do you multiply the number of plants within the hoop by to achieve plants per acre?

- \*A. 8878
- B. 1000
- C. 8855
- D. 6165

24. One bushel of soybeans at 11% moisture weights approximately how much?

- A. <56.00
- B. 56.65
- \*C. 58.65
- D. 62.14
- E. >64.00

25. What fertilizer is 34-0-0?

- A. diammonium phosphate
- \*B. ammonium nitrate
- C. urea
- D. anhydrous ammonia

26. If farmer Katie plants soybeans one year and then soybeans again the next year, what might she have problems with?

- A. weeds      B. insects      C. soil erosion      \*D. all of the above

27. A typical seeding rate in no-till drilled soybean fields would be \_\_\_\_\_ seeds/acre.

- A. 200      B. 26,500      C. 50,000      \*D. 200,000      E. 1,000,000

28. The cooperative near you recommends that 2.0 lb./A of the active ingredient in Dual herbicide be applied for weed control in corn. Dual contains 8.0 lb. active ingredient per gallon of product. Therefore \_\_\_\_\_ quart(s) of Dual should be applied per acre to achieve the recommended rate of active ingredient.

- A. 4      B. 2      \*C. 1      D. 0.8      E. 0.5

29. Why would one find a nitrogen deficiency in soybeans?

- \*A. pH too low for nodulation  
B. no fertilizer used  
C. iron toxicity  
D. too high of soybean population  
E. herbicide carryover

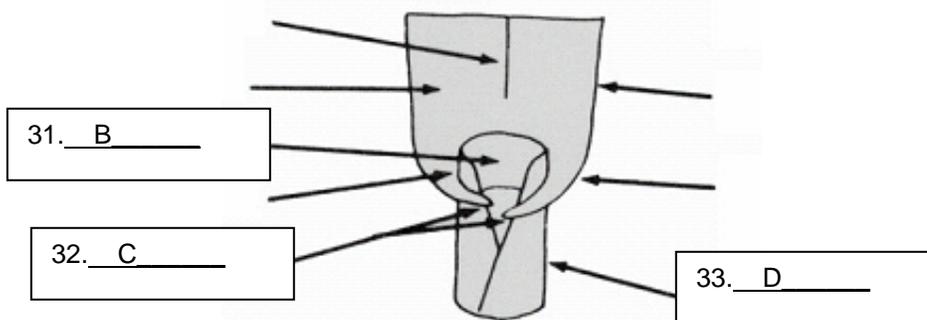
30. A corn plant is at the V6 growth stage. The growing point of this corn plant is above ground.

- \*A. True      B. False

31, 32, 33

Label the following parts of this grass plant with the correct names for questions 31, 32, and 33.

- A. collar      B. ligule      C. auricle      D. sheath      E. vein



34. Plate-like structure in the top six inches of a soil is often a sign of what?

- A. earthworms  
B. good soil tillth  
C. compaction  
D. an undisturbed soil

\*E. both C and D

35. Conservation tillage has been increasing drastically every year since 1989. This is largely due to the economics of producing a normal crop with less tillage. Which of the following is not an environmental benefit of reduced tillage?

A. leaves more grain on soil surface for improved wildlife habitat

B. reduces storm water run-off

C. leaves crop residue on the soil surface decreasing soil erosion by at least 1/2

D. increases earthworm activity

\*E. all of the above are environmental benefits of conservation tillage

36. When selecting a wheat variety \_\_\_\_\_ is not taken into consideration.

\*A. drought resistance

B. disease resistance

C. winter hardiness

D. straw strength

E. Hessian fly resistance

37. . Which of the following legumes are best adapted for pasture renovation on moderately well drained soils?

A. Sweetclover B. White clover C. Alsike clover \*D. Red clover

38. There are \_\_\_\_\_ acres in one square mile.

\*A. 640

B. 160

C. 80

D. 40

E. 20

39. Of the following, \_\_\_\_\_ is an example of a herbicide product name.

A. Glyphosate

B. Monsanto

\*C. Roundup

D. pigment inhibitor

40. Soil's negative charge comes from:

A. clay, silt

B. clay, sand

\*C. clay, organic matter

D. pH