

# 2008 Crop Production Exam

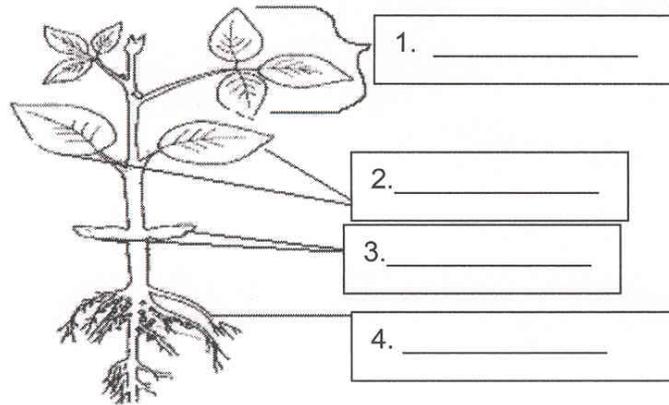
Purdue Invitational



Instructions: Read each multiple choice carefully and then mark the best 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. **GOOD LUCK!**

Questions 1 - 4. Please match the following on the soybean picture (each term is only used once):

- A. lateral root      B. stipules      C. trifoliolate leaf      D. cotyledons      E. unifoliolate leaf



5. 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
6. 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
7. Of the following plants, \_\_\_\_\_ does **not** produce its own nitrogen.
- A. Hairy vetch
  - B. Crownvetch
  - C. Red clover
  - D. Canola
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. Field pennycress
  - C. Johnsongrass
  - D. Redroot pigweed
9. When planting seed from your bin (i.e. wheat or soybeans) you notice that the seed is small. This means you have \_\_\_\_ seeds per pound and will use a seeding rate \_\_\_\_ in comparison to large seed.
- A. fewer, higher
  - B. fewer, lower
  - C. more, higher
  - D. more, lower

10. Price quotations for soybeans are for those of grade "U.S. No. 1" and class "Yellow Soybeans" a typical Nov. 2005 market price for these soybeans would be \$\_\_\_\_\_ per bushel.  
 A. 2.10                                      B. 5.65                                      C. 30.75                                      D. 65.25
11. A bushel is a measure of  
 A. area                                      B. weight                                      C. volume                                      D. density
12. Some limestone quarries provide farmers with a source of dolomitic limestone, an important carrier of two important plant nutrients that are essential for plant growth. They are  
 A. phosphorus and potassium                                      B. calcium and magnesium  
 C. nitrogen and calcium                                      D. iron and sulfur
13. A typical plant population would be \_\_\_\_\_ plants per acre in a cornfield.  
 A. 100                                      B. 2000                                      C. 27,000                                      D. 150,000
14. In Indiana, Group 2 soybeans are planted \_\_\_\_\_ of the region where Group 3 soybeans are planted. This is due to the fact that day length is \_\_\_\_\_ where Group 2 soybeans are grown in comparison to Group 3 during the growing season.  
 A. north, longer                                      B. south, shorter                                      C. south, longer                                      D. north, shorter
15. Herbicides are  
 A. chemicals that may control or kill plants, animals, bacteria or anything that is considered an undesirable pest  
 B. a group of chemicals that control or kill plants like weeds in crop fields or lawns  
 C. a chemical group that control fungus organisms and are commonly used for seed treatment when planting corn  
 D. chemicals that kill all bacteria that are harmful in crop fields and crop storage areas like grain bins
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 bromegrass  
 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. A bushel is a measure of  
 A. area                      B. weight                      C. volume                      D. density
27. A typical Indiana forage yield on a productive alfalfa field would be \_\_\_\_\_ tons/acre/year.  
 A. 1                      B. 4.5                      C. 15                      D. 25.5                      E. 100
28. When planting seed from your bin (i.e. wheat or soybeans) you notice that the seed is small. This means you have \_\_\_\_\_ seeds per pound and will use a \_\_\_\_\_ seeding rate in comparison to large seed.  
 A. fewer, higher                      B. fewer, lower                      C. more, higher                      D. more, lower
29. Herbicides are  
 A. chemicals that may control or kill plants, animals, bacteria or anything that is considered an undesirable pest  
 B. a group of chemicals that control or kill plants like weeds in crop fields or lawns  
 C. a chemical group that control fungus organisms and are commonly used for seed treatment when planting corn  
 D. chemicals that kill all bacteria that are harmful in crop fields and crop storage areas like grain bins  
 E. a group of chemicals targeting animals like ground hogs or wood chucks that forage on soybeans
30. If you had a pigweed infestation of 1 plant per 10 ft of row your soybean yield reduction is estimated to be:  
 A. 70%                      B. 60%.                      C. 50%                      D. 40%                      E. 30%
31. Which insect's life cycle is best described as an incomplete metamorphosis?  
 A. European corn borer                      B. black cutworm                      C. fall armyworm                      D.

grasshopper

32. Of the following types of plants, which is most likely to propagate using stolons, rhizomes, or creeping roots?  
A. winter annuals  
B. biennials  
C. perennials  
D. summer annuals
33. You are an extension agent in your home county and farmer Jake calls with a weed problem. You determine that the weed is a grass type and has a round sheath with clasping auricles and a membranous ligule. What is the weed?  
A. barnyardgrass  
B. johnsongrass  
C. quackgrass  
D. witchgrass  
E. shattercane
34. Livestock performance is better on a legume-grass mixed pasture than a pure stand legume or grass pasture.  
A. true  
B. false
35. Farmer Bill is pulling an 8-year-old Ag-Chem sprayer that he bought at the ACRE Consignment auction last spring. It is outfitted with a 500 gallon tank with 45 foot booms with 20 nozzles each putting out 0.4 GPM. Bill is using a 2000 Ford tractor to pull it at 4 mph. What is the output in GPA?  
A. 22  
B. 19  
C. 16  
D. 8.7
36. In some cases, one can estimate the amount of organic matter found in the soil until it becomes totally black. Cultivated soil is black when the organic matter content is greater than \_\_\_ percent.  
A. 2  
B. 3  
C. 4  
D. 6  
E. none of these
37. Which of the following is a signal word on a herbicide label?  
A. toxic  
B. corrosive  
C. harmful  
D. danger  
E. all of the above
38. The purpose of a cover crop is to:  
A. add an extra crop to the rotation for extra income  
B. provide crop residue for erosion and weed control  
C. produce straw and wildlife cover  
D. all the above are correct
39. You are conducting some seed plot experiments for a small seed company. In order to calculate yield on a per acre basis, you need to calculate the plot area. The plot was 150 feet by 120 feet. How large is the plot on a per acre basis?  
A.  $5.7 \times 10^{-3}$  acres  
B. 0.41 acres  
C.  $9.1 \times 10^{-2}$  acres  
D. 1.8 acres
40. Of the following, \_\_\_\_\_ is not one of the parts of the floret in a grass flower.  
A. petal  
B. pistil  
C. stamens  
D. lemma  
E. palea