

2005 CROP PRODUCTION EXAM

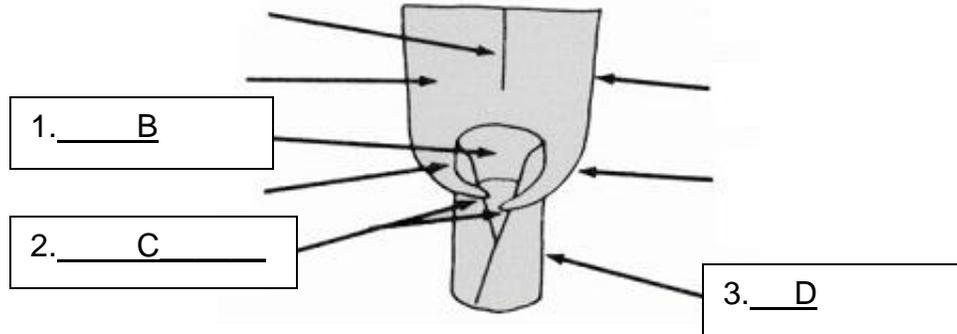
Purdue Invitational Crops Contest



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 & SOYBEAN FIELD GUIDE ON THIS PART OF THE CONTEST. GOOD LUCK!

Label the following parts of this grass plant with the correct names for questions 1, 2, and 3.

A. collar B. ligule C. auricle D. sheath



4. A _____ seedbed is recommended to obtain optimum conditions for wheat or a small seeded forage crop establishment.
 - *A. fine, firm
 - B. coarse, rough
 - C. broadcast seeding on a no-till
 - D. wet

5. What is the single most important factor in determining when you should plant soft red winter wheat?
 - *A. Hessian fly departure (emergence)
 - B. expected spring thaw
 - C. after you have applied adequate nitrogen
 - D. the average date of the first frost or freeze

6. When using urea as a nitrogen source, what percent is nitrogen?
 - A. 82
 - *B. 46
 - C. 34
 - D. 28

7. From harvest to planting (i.e. over wintering), how much of the original residue cover can be expected to remain?
 - A. 5-15%
 - B. 15-25%
 - C. 50%
 - *D. 75-85%
 - E. 95-100%

8. Which of the following corn relative maturity groups are most likely to yield the least and have a minimal growing degree day requirement?
 - *A. early
 - B. medium
 - C. full
 - D. it does not matter

9. There are _____ acres in one square mile.
 - *A. 640
 - B. 160
 - C. 80
 - D. 40
 - E. 20

10. Grasses are _____ and have _____ root systems.
 - A. monocots, tap
 - B. dicots, fibrous
 - *C. monocots, fibrous
 - D. dicots, tap

11. The SCS (Soil Conservation Service of the USDA) uses the _____ method to measure crop residue in agricultural fields.
A. photo comparison *B. linear-transect C. calculation D. truck window
12. When a person is scouting corn fields, the best time to look for the presence of fall armyworm is?
A. April to May
B. early May to early June
C. June
*D. mid July to early October
13. Of the following, _____ is an example of a herbicide product name.
A. Glyphosate B. Monsanto *C. Roundup D. pigment inhibitor
14. Roots are different from stems as roots do **not** have (never have)
*A. nodes and internodes B. xylem C. phloem D. rhizobia
15. A bushel is a measure of
A. area B. weight *C. volume D. density
16. If you were scouting a field over the summer for a hybrid company, and they wanted to know the life cycle of the Honeyvine milkweed infesting their soybean test plots, you would tell them that Honeyvine milkweed is a:
A. biennial *B. perennial C. winter annual D. summer annual
17. 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 50 feet by 30 feet. How large is the plot on a per acre basis?
A. 0.25 acres B. 0.0232 acres *C. 0.034 acres D. 0.01 acres
18. Dry soils are _____ to warm in the spring than wet soils.
*A. quicker B. slower C. no different
19. Wet spots on end rows, numerous horizontal roots, and irregular plant heights correspond to _____ problems.
A. soil fertility *B. soil compaction C. herbicide injury D. varmint
20. Most of the corn in Indiana is planted in rows separated by _____ inches.
A. 6 B. 24 *C. 30 D. 36 E. 40
21. When you buy 0-0-60 for your garden, you are buying _____ plant food.
A. nitrogen *B. potassium C. lime D. phosphorus E. salt

22. The process that winter wheat has to go through before it will produce seed?
A. hibernation B. winterization *C. vernalization D. scarification
23. Upon scouting a corn field in the V6 growth stage, you notice shortened internodes on some plants and interveinal striping on their leaves. You also note that the soil is cool and wet, low in organic matter, and compacted where the problem is occurring. What is the possible nutrient deficiency of the corn plants?
A. Potassium B. Phosphorous C. Nitrogen *D. Zinc E. Boron
24. In the summer, day length is _____ in Northern Indiana than in Southern Indiana.
*A. longer B. shorter C. the same length
25. Nitrogen fixing bacteria on legume plants are called _____.
A. Rhizomes B. N-Serve C. Rhizoctonia *D. Rhizobia
26. Using a 50 foot knotted rope (with knots at 6 inch intervals) you find residue touching 30 knots. What is the percent residue cover?
A. 15% *B. 30% C. 25% D. 60% E. 100%
27. The average first occurrence a person would expect a "normal" (32°F) fall freeze to typically occur in Warrick County, Indiana (assuming 50% probability) is:
A. 6-Sept B. 25-Nov *C. 25-Oct D. 1-Feb E. None of the above
28. In corn development what unit is a way of measuring how much heat has accumulated over a 24 hour period for corn development?
A. GPA B. photoperiod C. cytokinin *D. GDD
29. The term "CEC" refers to
*A. Cation Exchange Capacity
B. Corn Exchangeable Capacity
C. Corn Economic Council
30. Soil's negative charge comes from:
A. clay, silt B. clay, sand *C. clay, organic matter D. pH
31. Corn begins silking as a result of
A. photoperiod
*B. temperature degree days
C. moisture
D. intensity of darkness

32. Soil temperatures tend to be _____ and soil moisture percentages tend to be _____ in conventional than in no-till fields.
A. colder, greater B. colder, lesser C. warmer, greater *D. warmer, lesser
33. The largest source of error in lab results usually occurs from
A. chemical problems in the labs
B. laboratory machines that do not function properly
C. dirty lab equipment
*D. sampling techniques
E. none of the above
34. If you are calibrating your corn planter and desire 30,000 kernels per acre in 30 inch rows, the spacing between kernels in the row should be
*A. 7" B. 8" C. 7.5" D. 8.5" E. 9"
35. When scouting fields, _____ beetles are quickly recognized by a distinct triangular mark.
A. Japanese *B. Bean leaf C. Corn rootworm D. Mexican bean E. Flea
36. How many liquid ounces are in a gallon?
A. 50 oz. B. 78 oz. C. 108 oz. *D. 128 oz. E. 150 oz.
37. If you are going to spray where herbicide drift is of concern, you would use a _____ type of nozzle tip.
*A. flooding flat B. hollow cone C. flat fan D. even flat fan
38. You are currently a farm consultant. A recent homebuyer living South of I-70 and North of US 150 would like to know what soybean maturity group he needs to use?
A. II *B. III C. IV D. I
39. Soybean growth and (flower) maturation is most affected by
*A. day length
B. light intensity
C. the angle of the sun
D. temperature
E. both B and D
40. You are determining soybean plant populations using the hula hoop method. After tossing the hula hoop in five randomly selected locations, you find the average number of plants inside the hula hoop to be 31. The diameter of the hula hoop is 30 inches. What is the approximate number of plants per acre you will have?
A. 213,000 *B. 275,218 C. 6,223 D. 1,000 E. 128