2012 FFA CDE Agronomy Lab Practical

2012 KANSAS STATE CDE AGRONOMY EVENT
LABORATORY PRACTICAL

Contestant # Key Name ___________________________ Score ___________

PRINT OR WRITE LEGIBLY (4 points each)

1. redroot pigweed
2. C) potassium
3. D) Tb; Tully (eroded)
4. F) Liberty Link
5. E) purple seed stain
6. E) Phytophthora root rot
7. C
8. D) boot
9. E) 110° and 0.25 GPM
10. hay baler
11. yellow foxtail
12. 4 -or- V4
13. D) stomata
14. B) barley yellow dwarf virus
15. velvetleaf
16. B
17. F) cotyledon; Epigeal
18. Warning
19. D) Foundation → Registered → Certified
20. C) corn rootworm
21. D) field pennycress
22. D) two-fungicides and one insect
23. D) chinon bug
24. A
25. Sandy clay loam
26. B
27. B) wheat
28. B) bean leaf beetle
29. C) white clover & E) soybean
30. C, spikelet
31. ripper or subsoiler
32. A) corn earworm
33. E) loose smut
34. D) R-1 (silking)
35. 40
36. Soybean
37. 12 hours
VEGETATIVE WEED ID

1. This weed is _____________________
NUTRIENT DEFICIENCY

2. The yellowing (chlorosis) and dying (necrosis) along the margins on the leaves of this corn plant are typical of a deficiency of:
   A) Nitrogen
   B) Phosphorus
   C) Potassium
   D) Iron
   E) Sulfur
3. What is the dominant soil series or complex that is mapped in the legal land description: W ½ of the SE ¼ of Section 30, T5S, R6E?

(Use Marshall County Soil Survey Map No. 64).

A) Wb: Wymore  
B) Kc: Kipson-Sogn  
C) Ta: Tully  
D) Tb: Tully (eroded)
4. The above symbols found on seed bags indicate the presence of herbicide and/or insect resistance traits in the seed. Which indicates crops genetically engineered for glufosinate herbicide resistance?

ANSWER: A, B, C, D, E or F
5. This seed disease is:

A) blacktip
B) blue eye mold
C) scab
D) ergot
E) purple seed stain
F) bean pod mottle virus
6. This soybean disease is:

A) pod and stem rot of soybean       D) rust
B) bacterial blight of soybean       E) Phytophthora root rot
C) bean pod mottle virus            F) purple seed stain of soybean
FERTILIZER

7. Which is of the above fertilizers would be a source of potassium?

ANSWER: A, B, C, or D
8. The grain sorghum plants shown here are currently at which of the following growth stages:

A) vegetative
B) growing point differentiation
C) flag leaf emergence
D) boot
E) fully headed
F) half bloom (anthesis)
G) physiological maturity
9. Shown above is a flat fan sprayer nozzle tip. At standard 40 psi pressure, the angle of the spray pattern would be ___________ degrees (°) and the nozzle delivery rate would be ______________ gallons per minute (GPM)?

A. 110° and 25 GPM  
B. 25° and 11 GPM  
C. 110° and 2.5 GPM  
D. 25° and 1.1 GPM  
E. 110° and 0.25 GPM
10. This piece of equipment is a (an) ________________________________
VEGETATIVE WEED ID

11. This weed is ______________
CROP GROWTH AND DEVELOPMENT

12. The numerical vegetative growth stage of this corn plant is V- ___________.

Collars on corn plant
PLANT STRUCTURE – LEAF ANATOMY

13. The above diagrams show the anatomy of a typical plant leaf. The pore marked by the red arrows that is located in the epidermis of the plant leaf is called the:

A) stigma  D) stomata
B) stamen  E) stolon
C) stipule  F) sepal
14. This wheat disease is

A) loose smut of wheat       D) wheat scab
B) barley yellow dwarf virus  E) stem rust of wheat
C) wheat streak mosaic virus  F) leaf rust of wheat
VEGETATIVE WEED ID

15. This weed is ________________________
16. Which of the corn seedlings shown above was planted deeper?

ANSWER: A or B
17. The structure marked by the arrow is called the ________________;
The emergence type for these seedling is called ________________.

A) Coleoptile; Hypogeal  
B) Cotyledon; Hypogeal  
C) Hypocotyl; Hypogeal  
D) Endosperm; Hypogeal  
E) Coleoptile; Epigeal  
F) Cotyledon; Epigeal  
G) Hypocotyl; Epigeal  
H) Endosperm; Epigeal
18. The signal word on this herbicide is: _____________________
19. Shown are three standard tags that may be found on pedigreed seed regulated by state crop improvement associations. The correct order of generation of production for these three seed classes is:

A. Certified → Registered → Foundation
B. Foundation → Certified → Registered
C. Registered → Certified → Foundation
D. Foundation → Registered → Certified
E. Certified → Foundation → Registered
F. Registered → Foundation → Certified
20. This insect is

A) corn earworm  
B) green cloverworm  
C) corn rootworm  
D) fall armyworm  
E) black cutworm  
F) European corn borer
VEGETATIVE WEED ID

21. This weed is ________________
22. The seed protectant (seed treatment) on this hybrid corn seed contains:

A. one fungicide
B. one insecticide
C. one fungicide and one insecticide
D. two fungicides and one insecticide
E. one fungicide and two insecticides
F. five fungicides and two insecticides
23. This insect is:

A) alfalfa weevil
B) lady beetle
C) blister beetle
D) chinch bug
E) aphid
F) lacewing
24. Which of the above wheat samples would typically be used to make the food product displayed?

   ANSWER: A, B, C, or D
25. The correct soil textural class for a soil with 30% clay, 10% silt, and 60% sand is a ________________________________.
26. Which of the plants shown have a palmately compound leaf type with alternate leaf arrangement?

Answer: A, B, or C.
27. What crop is the above feed ingredient made from?

A) Corn
B) Wheat
C) Alfalfa
D) Soybean
E) Cotton
F) Grain Sorghum
28. This insect is:

A) blister beetle  D) chinch bug
B) bean leaf beetle  E) stinkbug
C) lady bug  F) corn rootworm adult
29. Which of the crops displayed can perform **symbiotic nitrogen fixation** and therefore the seeds should be **inoculated** when they are planted.

There may be more than one answer. List all that apply.

A. Cotton  
B. Grain Sorghum  
C. White Clover  
D. Smooth Bromegrass  
E. Soybean  
F. Sunflower
30. The entire structure within the circle is called the:

A. glume
B. floret
C. spikelet
D. lemma
E. awn (beard)
F. palea
31. This piece of equipment is a (an)________________________.
32. This insect is

A) corn earworm  B) green cloverworm  C) corn rootworm  
D) fall armyworm  E) black cutworm  F) European corn borer
33. This disease of wheat is:

A) leaf rust       D) scab
B) stem rust       E) loose smut
C) blacktip        F) ergot
34. The corn plant shown here is currently at which of the following growth stages:

A) V-11 (vegetative)
B) V-14 (vegetative)
C) V-T (tasseling)
D) R-1 (silking)
E) R-3 (milk stage)
F) R-6 (physiological maturity)
Use the results provided on the above Soil Test Report for soil phosphorus level (ppm) and the K-State Fertilizer Recommendation booklet provided to answer this question.

35. The Phosphorus Sufficiency Recommendation for Grain Sorghum with a yield goal of 80 bushels per acre is ____________ pounds P₂O₅ per acre.
36. Which of the above crop seeds would be most sensitive to damage to its germination potential during rough handling, augering and transporting?

Answer: identify the seed
37. What is the REI for this herbicide? __________________