2015 KANSAS STATE CDE AGRONOMY EVENT
LABORATORY PRACTICAL

Contestant # _______ Name Key _______ Score _______

PRINT OR WRITE LEGIBLY (4 points each)

1. barnyardgrass
2. D
3. D
4. E
5. A
6. E
7. E
8. D
9. press wheel or gauge wheel
10. a. 110° b. 0.4
11. cheat
12. B
13. C
14. common ragweed
15. a. D b. A
16. B
17. coleoptile
18. E
19. a. Caution b. 75% 
20. B
21. pinnate transmustard
22. B
23. A
24. a. 4 b. tale
25. sandy clay loam
26. a. D b. D
27. C
28. D
29. a. R1 b. silking
30. C
31. sprayer
32. F
33. B
34. a. field 1 b. field 2
35. Soil A
36. C
37. E
38. D (2 pt)
2015 KANSAS STATE CDE AGRONOMY EVENT
LABORATORY PRACTICAL

Contestant # _______ Name _____ Key _______ Score _______

PRINT OR WRITE LEGIBLY (4 points each)

1. A (different)
2. D (Iron)
3. D (root)
4. E (cabinet)
5. A (Pedicle)
6. E (alkaliphilic root rot) OR e (alkaliphilic root rot)
7. E (crown)
8. D (heading)
9. Black wheel / purple wheel
10. a. 110° b. 6.9
11. D (tobacco) b. A (cater)
12. D (crown)
13. C (tall grass)
14. Common weed
15. D (tobacco) b. A (cater)
16. B
17. A (spatula)
18. E
19. a. Caution b. 75%
20. B (elder)
21. D (James)
22. B (corn continuum)
23. A (barley)
24. a. 9 b. tote
25. Sandy clay loam
26. D (white clay) b. D (tobacco again)
27. C (corn)
28. D (tall weevils)
29. a. 81 b. sifting
30. C (He pounds)
31. spaying
32. F (black grass)
33. B (leaf and stem rot)
34. a. Field 1 b. Field 2
35. Soil A
36. C (compensation)
37. E (40% of 50%)
38. D (ready to use) (2 pt)
VEGETATIVE WEED ID

1. This weed is ____________________
NUTRIENT DEFICIENCY

2. The interveinal chlorosis on the upper leaves is typical of the following nutrient deficiency:
   A) Nitrogen
   B) Potassium
   C) Phosphorus
   D) Iron
   E) Sulfur
3. This seed disease is:

   A) blacktip of wheat       D) ergot
   B) blue eye mold           E) loose smut
   C) wheat scab             F) barley yellow dwarf virus
4. The above symbols found on seed bags indicate the presence of herbicide and/or insect resistance traits in the seed. Which indicates crop resistance to the herbicide active ingredient 2,4-D?

   ANSWER: A, B, C, D, or E
CROP PROBLEM

What caused some but not all of the plants to bend and twist? This is an example of a characteristic often described as epinasty.

A) Growth regulator herbicide
B) Too hot or too cold
C) Too wet or too dry
D) Insects or other pests attacking the stems
E) Fungal disease infecting the roots
6. This soybean disease is:

A) pod and stem rot of soybean
B) bacterial blight of soybean
C) bean pod mottle virus
D) rust
E) Phytophthora root rot
F) purple seed stain of soybean
7. The type of specialized stem shown here marked by the pin that is used by this curly dock plant for asexual propagation is called a:

A) Rhizome
B) Tuber
C) Stolon
D) Bulb
E) Crown
8. The wheat stems shown here are currently at which of the following growth stages:

A) tillering
B) jointing
C) boot
D) heading
E) anthesis (flowering)
F) physiological maturity
This piece of equipment is a (an) _________________________________
PESTICIDE APPLICATION

10. Use the flat fan sprayer nozzle tip provided to complete the following two statements. At standard 40 psi pressure:

a. The angle of the spray pattern would be ___________ degrees (°)

b. The nozzle delivery rate would be ___________ gallons per minute (GPM)

List both answers in correct order.
VEGETATIVE WEED ID

11. This weed is ______________
CROP GROWTH AND DEVELOPMENT

12. The vegetative growth stage of these soybean plants is
   A. V-E
   B. V-C
   C. V-1
   D. V-2
   E. V-3
CROP GROWTH AND DEVELOPMENT

13. Indicate which plant is a cool-season, perennial, introduced forage grass. Indicate plant A, B, C, or D.
VEGETATIVE WEED ID

14. This weed is _____________________
15. Use the plants shown here to answer the following two part question. ANSWER: A, B, C, or D

a. Which of the plants has pinnate venation?

b. Which of the plants is glabrous?

List both answers in correct order.
CROP GROWTH AND DEVELOPMENT

16. Which corn seedling was planted deepest?

ANSWER: A, B, or C
17. The structure marked by the pin is called the ___________________.

Word bank for this question: radicle, coleoptile, endosperm, cotyledon, hypocotyl, mesocotyl, cotyledon, primary root, seminal root.
SEED BAG LABELS

18. 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. Certified → Foundation → Registered
E. Foundation → Registered → Certified
F. Registered → Foundation → Certified
19. Use the Resist herbicide label provided to complete the following two statements:

a. The “signal word” on this herbicide is ____________________.

b. The product is a dispersible granule formulation containing _____________ percent total active ingredients.

List both answers in correct order.
20. This insect is:

A) alfalfa weevil  
B) aphid  
C) chinch bug  
D) lacewing  
E) stinkbug  
F) painted lady
VEGETATIVE WEED ID

21. This weed is ______________
22. This insect is:

A) bean leaf beetle       D) chinch bug
B) corn rootworm         E) painted lady
C) blister beetle        F) lacewing
CROP PRODUCTS and CROP QUALITY

23. What crop is this food product made from?

A) barley  D) flax
B) sunflower  E) corn
C) soybean  F) cotton
24. Use the hybrid corn seed bag provided to answer the following two questions:

a. How many seed treatment active ingredients are on this seed?

b. According to the label, what should be mixed with the seed when planting with a John Deere 7000 planter?

**List both answers in correct order.**
25. The correct soil textural class for a soil with 30% clay, 10% silt, and 60% sand is a ________________________________.
PLANT STRUCTURE and CLASSIFICATION

26. Answer the following two questions about the plants on display:

a. Which of the plants shown has palmately trifoliolate leaves?

Answer: A, B, C, or D.

b. What plant family are all these plants members of:
   A. Poacea (grass family)
   B. Asteraceae (composite family)
   C. Amaranthaceae (pigweed family)
   D. Fabaceae (legume family)
   E. Solanaceae (nightshade family)

List both answers in correct order.
CROP PRODUCTS

27. What crop is the above feed ingredient made from?

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

A) European corn borer
B) corn earworm
C) black cutworm
D) fall armyworm
E) corn rootworm
F) green cloverworm
CROP GROWTH AND DEVELOPMENT

29. Observe the corn plant on display to complete the following two statements:

a. The numerical growth stage is ________________ (letter and number).

b. The descriptive term for this growth stage is ________________.

List both answers in correct order.
CROP QUALITY

30. The apparatus shown here is used to measure the test weight of grain samples. The standard legal weight per bushel for the crop on display is:

A) 60 pounds/bushel
B) 58 pounds/bushel
C) 56 pounds/bushel
D) 50 pounds/bushel
E) 48 pounds/bushel
31. This piece of equipment is a (an)________________________.
This insect is

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

A) charcoal rot  
B) pod and stem rot  
C) Gibberella stalk rot  
D) rust  
E) ergot  
F) blue eye mold
SOIL TEST INTERPRETATION

34. Use the Soil Test Report above and the materials on display to answer the following two-part question:

a. Which field would most likely **NOT** need application of the material in pan a?

b. Which field would most likely need application of the material in pan b.

**List both answers in correct order.**
35. Which of the soils on display has the highest clay content? (you may do texture by feel – water and towels provided)

Answer: Soil A, Soil B, or Soil C
36. What most likely caused the root to turn a sharp angle as it was growing?

A) Soil salinity  
B) Root disease  
C) Compacted soil layer  
D) Insect feeding  
E) Acid soil
RECTANGULAR SOIL SURVEY

37. The field owned by C. & C. Doell in Section 9 contains ______________ and is legally described as the ____________.

A) 80 acres, NE ¼ of the SE ¼
B) 40 acres, SE ¼ of the NE ¼
B) 80 acres, SE ¼ of the NE ¼
C) 40 acres, NE ¼ of the SW ¼
D) 80 acres, SW ¼ of the NE ¼
E) 40 acres, NE ¼ of the SE ¼
SEED TREATMENT LABEL

38. (2 point question) What does the term RTU mean on the label?

A. Resistant Technology Understatement
B. Round-up to You
C. Resolved Technology Uniting
D. Ready to Use
E. Refuge Treated Up