

2014 State FFA Agronomy CDE Team Event

The Team event is set up for four students. Each student should complete one part of the event. If your team only has three members, one member can complete more than one part. If members finish their part early, they may assist other members. You are planning a crop budget for 1200 acres of Roundup Ready soybeans. You have thirty minutes for this part of the event.

Make sure all answers are recorded on the Team Event bubble sheet.

PART 1: Planting and Harvesting

1. What maturity group for soybeans should be planted in Central Iowa?
a. 1 b. 2 c. 4 d. 6
2. If you select a variety that has 2,800 seeds/pound and wish to plant 160,000 seeds/acre, how many 50 pound bags will be planted per acre?
a. 0.95 b. 1.14 c. 3.26 d. 5.71
3. How many bags of seed will be needed to plant the 1200 acres?
a. 1,136 b. 1,368 c. 3,912 d. 6,852
4. If seed costs \$51/bag, what is the total seed cost?
a. \$58,140 b. \$69,768 c. \$199,512 d. \$349,452
5. If the seed has a 98.5% purity and a germination rate of 96%, what is the PLS?
a. 0.95 b. 0.97 c. 1.03 d. 1.95
6. Since the seed is certified, what is the maximum allowable amount of noxious weed seed that can be present?
a. 0% b. 1.5% c. 3% d. 3.5%
7. If you harvest 521 pounds from a test plot that is 24 (30 inch) rows wide and 109 feet long, what is the yield per acre?
a. 52.2 bu. b. 54.9 bu. c. 57.9 bu. d. 64.8 bu.
8. What is the total yield for the 1200 acres in bushels?
a. 52,200 b. 65,880 c. 69,480 d. 77,760
9. The expected selling price is \$13.47 per bushel. What is the expected total income from the 1200 acres?
a. \$703,134 b. \$887,404 c. \$935,896 d. \$1,047,427
10. Using the Custom Rate Survey sheet, what is the total tillage cost/acre if you chisel plow and then use a soil finisher? (use the average rate per acre)
a. \$ 30.75 b. \$32.15 c. \$34.00 d. \$34.15
11. What would the total tillage cost be for the 1,200 acres?
a. \$40,800 b. \$40,980 c. \$38,400 d. \$36,900

12. Using the Custom Rate Survey, what would the total planting cost be if a planter was used without any attachments? (use the average price/acre)

- a. \$21,420 b. \$23,220 c. \$26,580 d. \$32,400

13. If rent is \$300/acre, what is the total rent payment?

- a. \$3,600 b. \$36,000 c. \$360,000 d. \$3,600,000

TEAM EVENT PART 2 Fertilizer and Lime

14. If grid sampling is used and a sample is pulled for every 2.5 acres, how many samples will be taken for the 1,200 acres?
a. 300 b. 320 c. 480 d. 640
15. The soil test calls for 0+44+83. How many tons of MAP (11-52-0) are needed to meet the phosphorus needs for 1,200 acres?
a. 50.77 tons b. 31.2 tons c. 62.4 tons d. 101.54 tons
16. If MAP costs \$498/ton, what is the cost for phosphorus?
a. \$25,283 b. \$15,538 c. \$31,075 d. \$50,567
17. How many tons of potash (0-0-60) are needed to meet the potassium needs?
a. 83 tons b. 49.8 tons c. 36 tons d. 26.4 tons
18. If potash costs \$460/ton, what is the cost for potash?
a. \$12,144 b. \$16,560 c. \$22,908 d. \$38,180
19. To correct the pH lime is added at a rate of 1.25 tons per acre. How many tons of lime are needed?
a. 125 tons b. 150 tons c. 1250 tons d. 1500 tons
20. What is the cost for the lime if it sells for \$12/ton?
a. \$1500 b. \$ 1800 c. \$15,000 d. \$18,000
21. The application cost for fertilizer is \$5/acre. What is the cost for applying the fertilizer?
a. \$460 b. \$600 c. \$ 4600 d. \$6000
22. Application cost for lime is \$4/acre. What is the cost for adding lime?
a. \$4000 b. \$4800 c. \$400 d. \$480

TEAM EVENT PART 3**Herbicides**

Roundup and Cobra will be tank mixed for weed control. A postemergence application will be used. Cocklebur and redroot pigweed are the targeted weeds and they will be 2-3 inches tall when the herbicide is applied. Roundup will be applied at a rate of 22 ounces per acre. **(Partial labels provided)**

23. How many gallons of Roundup will be needed for the 1200 acres (must buy whole gallons)?
a. 1650 b. 825 c. 550 d. 207
24. What will be the cost for Roundup if it sells for \$33/gallon?
a. \$54,450 b. \$27,225 c. \$18,150 d. \$6,831
25. Cobra should be mixed at _____ ounces/acre.
a. 8 b. 10 c. 12.5 d. 15
26. How many gallons of Cobra will be needed for the 1200 acres (must buy whole gallons)?
a. 75 b. 94 c. 117 d. 150
27. Cobra sells for \$195/gallon. What will be the total cost for Cobra?
a. \$14,625 b. \$18,330 c. \$22,815 d. \$29,250
28. The local coop charges \$7/acre for spraying. What will be the cost of applying herbicides?
a. \$16,800 b. \$8,400 c. \$6,000 d. \$4,800
29. The total weed control cost would be:
a. \$29,856 b. \$33,561 c. \$44,840 d. \$88,500
30. According to the Roundup label, how can weed resistance be managed?
a. use herbicides with the same modes of action, but rotate crops from year to year
b. incorporate the herbicides
c. double the rates for the chemicals
d. use tank mixes with different modes of action
31. For postemergence application of Cobra, it is recommended to use a:
a. granular in furrow
b. seed coating
c. crop oil
d. none of these
32. According to the Cobra label, a nitrogen source such as _____ may increase the effectiveness of the chemical.
a. urea b. anhydrous ammonia c. ammonium sulfate d. DAP
33. In what order should Cobra, an adjuvant, and a nitrogen source be added to the sprayer?
a. Cobra, adjuvant, nitrogen source
b. adjuvant, Cobra, nitrogen source
c. nitrogen source, adjuvant, Cobra
d. the order doesn't matter

PART 4**INSECTICIDE AND FUNGICIDE (Partial labels provided)**

34. Asana is applied to control aphids and Japanese beetles. It is applied at a rate of 4 ounces per acre. How many gallons of Asana will be needed for the 1200 acres (must purchase whole gallons)?
a. 300 b. 150 c. 75 d. 38
35. Asana cost \$56/gallon. What will be the total insecticide cost?
a. 416,800 b. \$8,400 c. \$4,200 d. \$2,128
36. What is the preharvest interval (PHI) for Asana?
a. 14 days b. 21 days c. 28 days d. 30 days
37. Asana should not be applied within _____ feet of a pond, when applying with a ground sprayer.
a. 10 b. 150 c. 25 d. 450
38. To get rapid knockdown of rapidly growing aphid populations Asana can be tank mixed with:
a. glyphosate b. Lannate c. Headline d. gluphosonate
39. Application costs for insecticide is \$6 per acre. What is the total application cost?
a. \$7,200 b. \$6,000 c. \$4,500 d. \$2,250
40. Headline can be applied to soybeans at a maximum rate of _____ ounces/acre per application.
a. 2 b. 7 c. 12 d. 21
41. The last application of Headline must be made how many days before soybeans are harvested?
a. 7 b. 14 c. 21 d. 28
42. How many gallons of Headline will be used to spray 1200 acres, if maximum rate is used?
a. 22 b. 66 c. 113 d. 120
43. Assuming Headline can only be purchased in full gallon containers, what will the total cost be if it sells for \$440/gallon?
a. \$9,680 b. \$29,040 c. \$42,200 d. \$49,720
44. Harvesting costs are \$35/acre. What is the total harvest cost?
a. \$3,500 b. \$4,200 c. \$35,000 d. \$42,000

Work as a team to complete the following. (select the answer closest to your answer, there may be differences due to rounding)

45. It costs \$0.03/bushel to haul the grain. What is the total transportation cost? (refer to number 8)
a. \$1,566 b. \$1,976 c. \$2,084 d. \$2,333
46. What is the total income?
a. \$703,134 b. \$887,404 c. \$935,896 d. \$1,047,427
47. What are the total expenses?
a. \$596,500 b. \$623,460 c. \$675,506 d. \$713,339
48. What is the profit (or loss)?
a. \$106,634 b. \$222,557 c. \$312,436 d. \$371,921
49. What is the breakeven yield?
a. 57.9 bu. b. 44.13 bu. c. 41.79 bu. d. 38.57 bu.
50. What is the breakeven price?
a. \$8.24 b. \$9.72 c. \$10.27 d. \$12.04

**SUBJECTIVE SCORE
INSTRUCTOR USE ONLY**

100	90	80	70	60
50	40	30	20	10
9	8	7	6	5
4	3	2	1	0

PART 1

(T) (F) KEY

1	A	B	C	D	E
2	A	B	C	D	E
3	A	B	C	D	E
4	A	B	C	D	E
5	A	B	C	D	E
6	A	B	C	D	E
7	A	B	C	D	E
8	A	B	C	D	E
9	A	B	C	D	E
10	A	B	C	D	E
11	A	B	C	D	E
12	A	B	C	D	E
13	A	B	C	D	E
14	A	B	C	D	E
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25	A	B	C	D	E
26	A	B	C	D	E
27	A	B	C	D	E
28	A	B	C	D	E
29	A	B	C	D	E
30	A	B	C	D	E
31	A	B	C	D	E
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38	A	B	C	D	E
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41	A	B	C	D	E
42	A	B	C	D	E
43	A	B	C	D	E
44	A	B	C	D	E
45	A	B	C	D	E
46	A	B	C	D	E
47	A	B	C	D	E
48	A	B	C	D	E
49	A	B	C	D	E
50	A	B	C	D	E

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IMPORTANT

USE NO. 2 PENCIL ONLY

- MAKE DARK MARKS
- ERASE COMPLETELY TO CHANGE
- EXAMPLE: A B C D E

TO USE SUBJECTIVE SCORE FEATURE:

- Mark total possible subjective points
- Only one mark per line on key
- 163 points maximum

EXAMPLE OF STUDENT SCORE:

1	2	3	4	5
100	90	80	70	60
50	40	30	20	10
9	8	7	6	5
4	3	2	1	0

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SUBJECT	2014
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PERIOD	

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TEST RECORD	
PART 1	
PART 2	
TOTAL	