

# Module 11: Fertilizer Placement and Timing

## SELF-STUDY EXAMINATION—ROCKY MOUNTAIN CCA

4449-11 QUIZ

### DIRECTIONS

1. Clearly mark an “X” next to the best answer to each question. Complete evaluation form and registration form.
  2. Tear out this page and place in envelope along with a \$15 check (processing fee) payable to the American Society of Agronomy (or fill out credit card information). Payment in U.S. funds only.
  3. Mail self-study exam and fee to: ASA c/o CCA Self-Study Exam, 677 S. Segoe Road, Madison, WI 53711.
- A passing exam score (70%) is worth 1.5 Rocky Mountain CEU in **nutrient management**.

### QUESTIONS

1. What is one possible problem with foliar applying macronutrients?  
 a. Prevents flowering  
 b. Decreases grain protein  
 c. Potential for leaf burn  
 d. Leaves can not take up macronutrients
2. Why are metal micronutrients often foliar-applied?  
 a. Liquid fertilizers are less expensive  
 b. Metals are very mobile  
 c. Metals are very soluble  
 d. Uptake is higher than when applied to soil
3. What is one difference in root development between dryland and irrigated wheat?  
 a. More root development for dryland  
 b. Seminal roots are longer for dryland  
 c. Seminal roots are longer for irrigated  
 d. More lateral roots for irrigated
4. If you want P to be taken up as quickly as possible after seeding, where should you place the P fertilizer?  
 a. 2 in. directly below the seed  
 b. 2 in. below and 2 in. to the side of seed  
 c. Directly with the seed  
 d. 2 in. to the side of the seed
5. Under what conditions might N subsurface banding be expected to cause a wheat yield increase?  
 a. wet and low soil N  
 b. dry and low soil N  
 c. wet and high soil N  
 d. dry and high soil N
6. In a University of Wyoming sugarbeet study, which placement technique maximized net revenues?  
 a. Broadcast  
 b. Knifed  
 c. Surface banded  
 d. Point injection
7. What P banding depth below the soil surface produced the highest winter wheat yield in Fig. 6?  
 a. 1 inch  
 b. 2 inches  
 c. 4 inches  
 d. 6 inches
8. According to a study by Sleight et al. (1984), why does subsurface banding often increase yield?  
 a. Less P sorption  
 b. Less precipitation  
 c. More P-root contact  
 d. Higher moisture
9. Your client has a medium STP soil. The lab recommends banding 50 lb P<sub>2</sub>O<sub>5</sub>/ac, yet you only have equipment to broadcast-apply P. How much P should be applied?  
 a. About 25 lb P<sub>2</sub>O<sub>5</sub>/ac  
 b. About 50 lb P<sub>2</sub>O<sub>5</sub>/ac  
 c. About 100 lb P<sub>2</sub>O<sub>5</sub>/ac  
 d. About 150 lb P<sub>2</sub>O<sub>5</sub>/ac
10. Why does K placement apparently have less of an effect on yield than P placement?  
 a. K is less mobile than P  
 b. K has more loss mechanisms than P  
 c. K is more mobile than P  
 d. Soil test K levels are generally deficient
11. Why did urea reduce barley stands more than ammonium nitrate?  
 a. Urea has a higher salt index  
 b. Urea converts more readily to ammonia  
 c. Ammonium nitrate has more biuret  
 d. Ammonium nitrate has a lower solubility

12. Banding urea at which depth was found to produce the highest grain nitrogen use efficiency?  
 a. 1 in.                       b. 2 in.                       c. 3 in.                       d. 4 in.
13. What method of N fertilization decreased weeds by 20-40% in spring wheat fields?  
 a. Broadcast                       c. Foliar  
 b. Deep banded                       d. Side-banded
14. In HRS wheat that takes up 100 lb N/ac, approximately how much N is in the grain at harvest?  
 a. 20 lb/ac                       b. 40 lb/ac                       c. 60 lb/ac                       d. 80 lb/ac
15. Late-season N applications can increase net revenues for the producer due to the following effect(s):  
 a. Yield and grain protein both increase                       c. Only grain protein increases  
 b. Only yield increases                       d. Less N fertilizer use

## SELF STUDY EVALUATION FORM: Nutrient Management Module 11

**Rating Scale: 1 = Strongly Disagree    5 = Strongly Agree**

Information presented will be useful in my daily crop advising activities:	1	2	3	4	5
Information was organized and logical:	1	2	3	4	5
Graphics/tables were appropriate and enhanced my learning:	1	2	3	4	5
I was stimulated to think how to use and apply the information presented:	1	2	3	4	5
The article addressed the stated competency area and performance objective(s)	1	2	3	4	5
What suggestions (general and specific) do you have to improve future modules?					

**Topics you would like to see addressed in future self-study materials:**

### SELF-STUDY EXAM REGISTRATION FORM-FOR ROCKY MOUNTAIN CCA CREDIT

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**A \$2.00 Processing Fee will be added to all credit card charges.**

I certify that I alone completed this self-study course and recognize that an ethics violation may revoke my CCA status.

\_\_\_\_\_  
Signature of Registrant as it appears on Code of Ethics

\_\_\_\_\_  
Date