

Get a CEU!

This exam is worth 1 CEU in **Nutrient Management**. An exam score of 70% or higher will earn CEU credit. The International CCA program has approved self-study CEUs for 20 of the 40 CEUs required in the two-year cycle.

DIRECTIONS

1. Read the self-study article on pages 38-40 carefully.
2. Answer the questions by clearly marking an "X" in the box next to the best answer for each question.
3. Complete the self-study exam registration form on the back of this page.
4. Clip out this self-study examination page, fold and place in envelope.
5. Enclose a check for \$10.00 made payable to the American Society of Agronomy, for processing fees. Payment in U.S. funds only.
6. **Mail your self-study exam and fee to:**
ASA c/o CCA Self-Study Exam, 677 S. Segoe Road, Madison, WI 53711. *Please allow 60 days for processing.*
7. An electronic version of this test is also available at www.AgProfessional.com. Go to the Certified Crop Advisers section (lefthand column) and access the "CCA Advantage" link.

Using Soil Phosphorus Profile Data to Access Phosphorus Leaching Potential in Manured Soils April Self-Study Examination

1. An essential nutrient for crop and animal production, phosphorus can:

- a. decrease fresh-water eutrophication.
- b. increase fresh-water eutrophication.
- c. improve water quality.
- d. be difficult to detect.

2. Subsurface transport is dominated by:

- a. capillary action.
- b. preferential flow through soil macropores.
- c. textural gradients.
- d. structural changes.

3. In the subsurface horizons of all three soils, oxalate-extractable soil P concentrations were greater:

- a. below the lithologic discontinuity.
- b. above the lithologic discontinuity.
- c. in the upper argillic horizons.
- d. in the A horizons.

4. In the sub-surface horizons of all three soils, soil P sorption saturation:

- a. remains the same throughout the soil profile.
- b. decreases significantly below the lithologic discontinuity.
- c. increases significantly below the lithologic discontinuity.
- d. readings determined capillary action was the primary mechanism for P transport.

5. In Pennsylvania, addition of fertilizer P is not expected to increase crop yield when Melich-3 P concentration is above:

- a. 35 mg kg⁻¹.
- b. 45 mg kg⁻¹.
- c. 55 mg kg⁻¹.
- d. 65 mg kg⁻¹.

6. Elevated P in the lower solum resulted from:

- a. long-term leaching.
- b. varied parent material.
- c. could not be determined.
- d. was insignificant.

7. Results suggest that P is transported via preferential flow pathways because:

- a. concentrations in leachate were greatest in the 30 cm cores.
- b. concentrations in leachate were greatest in the 50 cm cores.
- c. there was no systematic difference in leachate P losses between the 30 and 50 cm cores.
- d. matrix flow does not reach 50 cm in most soil solums.

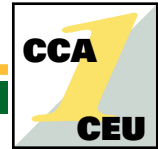
8. Profile P data:

- a. provides limited insight into P leaching.
- b. provides good insight into P leaching.
- c. provides excellent insight into P leaching.
- d. was not available for this study.

Over

Continuing Education Self-Study Test

Nutrient Management Test (continued)

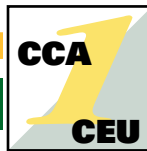


9. Surface application of poultry manure:

- a. had no effect on leachate P concentrations.
- b. decreased leachate P concentrations.
- c. increased leachate P concentrations from all soils.
- d. increased leachate P in 30-cm columns only.

10. Storm flow concentrations in tile drainage are frequently:

- a. important sources of nutrients for surface water ecosystems.
- b. below eutrophic criteria established for streams not discharging directly into lakes or impoundments.
- c. above eutrophic criteria established for streams not discharging directly into lakes or impoundments.
- d. an example of matrix flow.



SELF-STUDY EXAM REGISTRATION FORM

Name: _____
Address: _____
City: _____ State/Province: _____ Zip: _____
CCA Certification #: _____
Credit Card #: _____ Type of Card: Visa Mastercard Discovery Am Express
Expiration Date _____ Name on Card: _____

A \$2 processing fee will be added to all credit card charges, or enclose \$10 check payable to American Society of Agronomy.
X

Signature of Registrant as it appears on Code of Ethics
I certify that I alone completed this self-study course and recognize that an ethics violation may revoke my CCA status.

This exam issued April 2004 expires April 2007.

SELF-STUDY EXAM EVALUATION FORM

Rating Scale: 1=Poor 5=Excellent

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
This article addressed the stated competency area and performance objective(s): 1 2 3 4 5
Briefly explain any "1" ratings: _____
Topics you would like to see addressed in future self-study materials: _____

DETACH HERE