



Maryland Department of Agriculture

Office of Resource Conservation

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Nutrient Management Program

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University of Maryland Agricultural Nutrient Management Webinar

March 12, 2015

Course #2007

Post-Program Quiz for Agricultural NM CEUs

Complete this quiz with the information you learn from the Webinar presentation.

You must answer all the items correctly and submit this form to MDA to earn **2 Maryland Agricultural Nutrient Management continuing education credits**. Be sure to print your answers clearly. You must also include your printed name and the number as shown on your Maryland NM certificate or applicator voucher, your signature, date completed and your contact information.

Mail completed form to: **MDA Nutrient Management Program, 50 Truman Pkwy #201, Annapolis MD 21401**, no later than 3 business days after you view the program. Keep a copy for your records.

PART 1 "NITROGEN CYCLE: INTERMEDIATE" <https://webmeeting.umd.edu/p16jbb5g3r5/>

1. What is the name of this program's presenter? _____
2. Name two ways nitrogen is lost from the soil. _____
3. Name two ways nitrogen is added to the soil. _____
4. What are the three components of nitrogen present in the soil? _____
5. Why is reactive N (Nr) of environmental concern? _____
6. What is the main driver of the N cycle? _____
7. What are the four "fertilizer rights?" _____
8. A material has a C:N ratio of 35:1. What problem could it cause if applied to a newly-seeded crop?

9. On the Piedmont, when is the worst time to kill a rye cover crop for spring seeding with regard to N sequestration?

10. Does a higher level of soil N increase or decrease rhizobial activity in legume root nodules? _____
11. Which legume crop provides the least N credit? _____
12. In what time period is half the ammonia-N lost from a surface application of poultry litter? _____
13. Under what land use is the least amount of N measured in stormflow water? _____
14. In the Wye-REC 1988-89 study, what was the best date to plant a cover crop for maximum N sequestration?

PART 2 "DENITRIFICATION IN NATURAL, CONVERTED, AND RESTORED WETLANDS" <https://webmeeting.umd.edu/p3pmvh9x17s/>

- 15. What is the name of this program's presenter? _____
- 16. In denitrification, soil nitrate is chemically reduced to _____.
- 17. Would a dry, porous soil likely have high levels of denitrification? _____
- 18. What soil oxygen levels are present when denitrification is at its highest?
- 19. Old organic matter has higher _____ levels than fresh organic matter.
- 20. As pH levels increase, denitrification activity generally _____.
- 21. Match the statement on the left with the best site match on the right:
 - A. Higher carbon percentages occur here
 - B. Moderate C and N levels are found here
 - C. C:N ratios are lowest here
 - 1. restored agricultural soils
 - 2. converted agricultural soils
 - 3. natural wetland soils

I certify that I have viewed this program and am entitled to receive continuing education credits toward renewal of my Maryland Agricultural Nutrient Management certification or voucher. I understand this **form may not be copied or distributed** to persons who did not participate in the program, that **online presentations for viewing may be withdrawn without notice**, and that **quizzes submitted after that time will not be accepted** for NM CEUs.

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| <i>Printed Name</i> | <i>Signature</i> |
| <i>Date</i> | <i>NM Certificate or Applicator Voucher Number</i> |
| <i>Daytime phone</i> | <i>Email</i> |