

Name of Practice: PRECISION NUTRIENT MANAGEMENT ON CROPLAND  
– NITROGEN APPLICATION  
DCR Specification for No. NM-5N

This document specifies terms and conditions for the Virginia Department of Conservation and Recreation’s Precision Nutrient Management on Cropland – Nitrogen Application best management practice which are applicable to all contracts entered into with respect to that practice.

A. Description and Purpose

This practice will encourage the use of precision nutrient management practice components that support a higher intensity of nitrogen management in the field than existing standard nutrient management practices. This practice is limited to row crops, small grains and highly managed hayland production systems (see Glossary for definition).

This practice supports multiple enhanced nutrient management components such as soil pre-sidedress nitrate tests (PSNT) and all variable rate nitrogen application technologies. This practice may only be used on fields that apply nitrogen based upon test results identified in section B, whether they have organic nutrient applications or not, with the exception of biosolids applications.

Multiple split applications of nitrogen applies to corn, cotton, small grains crops, grain sorghum/milo, canola, specialty crops, produce, turf/sod farms and highly managed hayland. This practice does apply to the late winter split application of nitrogen on small grains. The variable rates of nitrogen listed below in B.2 apply to all row and highly managed hay crops (other than alfalfa, which is not eligible). Other macro-micro nutrients or soil amendments may be applied concurrently.

B. Policies and Specifications

1. This is an annual practice.
2. Results from the test conducted to develop a nitrogen application prescription must be used to determine the nutrient application rates for the current or following crop as appropriate; that prescription must be followed during the rate of application of nitrogen.
3. At least one of the following identified components must be implemented to receive any cost-share payment for this practice:
  - i. Soil pre-sidedress nitrate test (PSNT): Plant tissue samples or petiole samples must be submitted at the correct growth stage and handled in accordance with laboratory guidelines to ensure sample viability and usability. The results of these samples may be used by the participant to support this practice.
  - ii. Variable rate nitrogen applications or zone application of nitrogen based upon

- the soil test results of (subfield) sampling on row crops, specialty crops or small grains. Other macro-micro nutrients may be applied concurrently.
- iii. Three or more split applications of nitrogen on small grains.
  - iv. Two or more split sidedress applications of nitrogen on corn or cotton.
  - v. Two or more applications of nitrogen on highly managed hayland production systems (other than alfalfa, which is not eligible).
  - vi. Injection at sidedress.
4. On fields that have organic sources of nitrogen applied during the crop year or in previous years, or if high residual nitrogen levels are suspected from a previous crop, fall nitrogen rates shall be determined by a soil nitrate test.
  5. All split applications will be applied at a growth stage when the plant is entering the highest demand for nitrogen. Application of any sidedress nitrogen, including the first split, must be applied after the corn is at the 5-leaf stage or at least 12" in height.
  6. Subsequent sidedress applications must be applied at least 14 days after the most recent application.
  7. Total nitrogen application rates (including pre-plant and sidedress) on corn shall not exceed 1 lb./bu. expected crop yield.
  8. Where this practice is applied, there must be a note in the narrative or elsewhere in the nutrient management plan indicating that the soils were sampled in an appropriate manner.
  9. In order to be eligible for cost-share or tax credit, producers must be fully implementing a current Nutrient Management Plan (NMP) on all agricultural production acreage contained within the field on which this practice will be implemented. The NMP must comply with all requirements set forth in the Nutrient Management Training and Certification Regulations (4VAC50-85 et seq.) and the Virginia Nutrient Management Standards and Criteria (revised July 2014); must be prepared and certified by a Virginia certified Nutrient Management Planner; and must be on file with the local District before any cost-share payment is made to the participant. Plans shall also contain any specific production management criteria designated in the BMP practice (4VACV50-85-130G).
  10. Acres receiving a zero application rate based on a PSNT result also qualify for a payment rate of \$8 per acre.
  11. The total number of acres that qualify for this practice will be based upon the total acres that were sampled in zones, had mid-season testing such as soil pre-sidedress nitrate testing (PSNT), or received variable rate or zone applications of nitrogen, based upon the zone or grid soil nitrate sampling.

12. Participants shall provide written verification of the recommendation and the resulting application(s) (e.g. results of laboratory test, a work order or bill, as-applied application map of field) to the District within 45 days of the final nitrogen application.
13. The participant **must** sign up for this practice before April 1<sup>st</sup> of each year that the practice will be utilized.
14. Fields that have received applications of biosolids within the previous 24 months are not eligible.
15. Participants may **not** receive cost-share payments for NM-3C or NM-4 and NM-5N simultaneously on the same crop and field.

#### C. Rates

1. As set forth by Virginia Code, the Commonwealth currently provides a tax credit for implementation of certain agricultural best management practices, as discussed in the Tax Credit Guidelines of the VACS Manual.

For participants who are not receiving payment for precision application of nitrogen from any other funding source on the same acreage, a state cost share payment rate of 75% of the application charge, up to a maximum amount of \$8.00 per acre per year, is available for the acres receiving the variable rate or zone application of nitrogen or multiple split applications of nitrogen on corn, cotton and small grain; or more than two applications on highly managed hayland.

2. Costs for a pre-side dress nitrate test (PSNT) or fall soil nitrate test sample collection and analysis by a commercial laboratory that are used to implement this practice will be reimbursed at a flat rate of \$12.00 per sample, up to one PSNT per field. No per sample cost-share is available for zone soil fertility testing.

#### D. Technical Responsibility

Technical and administrative responsibility is assigned to qualified technical DCR and District staff in consultation, where appropriate and based on the controlling standard, with DCR, Virginia Certified Nutrient Management Planner(s), NRCS, DOF, and VCE. Individuals certifying technical need and technical practice installation shall have appropriate certifications as identified above and/or Engineering Job Approval Authority (EJAA) for the designed and installed component(s). All practices are subject to spot check procedures and any other quality control measures.

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