NUTRIENT MANAGEMENT PRACTICES
-In the PY22 VACS Program-

Objectives
- The NMP as a “Gateway Practice”
- Role with WIP III
- Nitrogen Application Options
  - NM-3C
  - NM-4
  - NM-5N (Precision)
- Phosphorus Options
- Other Key NM Practices

Credit: agfax.com
Nutrient Management Plans

- Fully implemented NMPs are the key or gateway to over 30 VACS cost-share and tax credit practices
- Can be written by a DCR NM Specialist or a private, certified NM Planner
- Can be funded through the NM-1A VACS practice or the DCR Direct Pay Program

Nutrient Management Plans

- Required for the following practices:
  - All No-Till or Minimal Tillage Systems
  - All “NM” Nutrient Management practices
  - All Cover Crop Practices
Nutrient Management Plans

- Required for the following practices:
  - All Animal Waste Practices
  - Both Resource Management Plan practices
  - Long Term Vegetative Cover (SL-1)
  - Stripcropping (SL-3, SL-3B)
  - Terrace Systems (SL-4)
  - Grass Filter Strips (WQ-1)

WIP III “Bay Bill” Impacts

- Nutrient management planning is a huge part of the Commonwealth’s WIP III goals
- Goal of 85% coverage on all cropland acres in the Chesapeake Bay watershed
- Per the Bay Bill, if WIP III goal isn’t met, NMPs shall be required by law for all operators of 50+ CB crop acres
Intro to Key Nutrient Management Options in VACS

Key Nitrogen Application Options

- **NM-3C** Sidedress Application of Nitrogen on Corn
- **NM-4** Late Winter Split Application of Nitrogen on Small Grains
- **NM-5N** Precision Nutrient Management on Cropland – Nitrogen Application
NM-3C Sidedress Application of Nitrogen on Corn at the 6-Leaf Stage or at Least 15” in Height

• Pay attention to the full name of the practice
• This practice is designed for nitrogen applications on corn ONLY (i.e. not sorghum or any other crop)

NM-3C Sidedress Application of Nitrogen on Corn at the 6-Leaf Stage or at Least 15” in Height

• Simple sidedress ONLY, not split applications (i.e. NM-5N)
• Application made when the plant is entering its highest demand for nitrogen at the 6-Leaf Stage or at least 15” in height
NM-3C Details

- May include either organic or inorganic N applications
- Note that this is a “lumped practice” where planner must discern which portions of the spec apply to their situation
- May only be applied on corn acres to receive sidedress with rates specified by the NMP
- Total application of nitrogen to be applied to the corn must be consistent with NMP or determined by using the PSNT (if required)

NM-3C Details

- For fields that have previously received manure or biosolids applications according to the current NMP, a pre-sidedress nitrate test (PSNT) will be used to determine the amount of nitrogen necessary in the sidedress application
- PSNT must be conducted when corn is approximately 12 inches in height
- PSNT samples should represent a minimum of 7 acres on average and a maximum of 20 acres on average
NM-3C Sign-Up

- Annual Practice eligible for one PY Carryover
- VACS Sign-Up Deadline: April 1 (though Districts can require earlier sign-up)
- Participants must submit their NMP to the District
- Participants must provide written verification of contracted sidedress application cost (including PSNT results) to the Districts within two weeks of sample analysis
- District staff should utilize NMP maps, nutrient balance sheets and summary sheets to confirm correct practice implementation.

NM-3C Payment

- 75% Cost-Share on the application charge up to a maximum amount of $6/acre.
- Producers applying their own sidedress receive the $6 per acre rate.
- Acres receiving a zero application rate based on a PSNT also qualify for the $6 per acre rate.
- Additionally, PSNT samples are reimbursed at a flat rate of $8 per sample.
NM-4 Late Winter Split Application of Nitrogen on Small Grains

- This practice should be utilized for applying nitrogen during the late winter in two increments based on the progression of growth of the small grain crop, thereby minimizing loss through runoff and leaching.
- Dependent on NMP and the total number of small grain acres specified to receive split N applications

On fields where organic nitrogen sources have been applied during the crop year or previous years, fall nitrate tests should be conducted.
- The first split must not exceed 40 lbs of nitrogen and the second split must not exceed 50 lbs
NM-4 Sign-Up

- Annual Practice, not eligible for Carryover
- VACS Sign-Up Deadline: **February 1** (though Districts can require earlier sign-up)
- Participants must submit their NMP to the District
- Participants must provide written verification (such as a work order or bill) to the District within two weeks of the second application

Credit: canr.msu.edu

NM-4 Payment

- Payment only for acres that actually receive the two split applications
- If only one winter application is made, no reimbursement is to be provided.
- 75% Cost-Share on the application charge up to a maximum amount of $4.50/acre **taken on the cost of the second application**
- Soil nitrate samples are reimbursed at a flat rate of $8 per sample.
NM-5N Precision Nutrient Management on Cropland – Nitrogen Application

- This practice supports multiple enhanced NM technologies to be applied to row crops, specialty crops, small grains and highly managed hayland
- All applications for this practice must be based upon test results, regardless of whether organic nutrients have been utilized in the past
- Fields that have received biosolids within the past 24 months are not eligible

NM-5N Precision Nutrient Management on Cropland – Nitrogen Application

- Test results will be used to develop a prescription for N application (e.g. PSNT required where organic nutrients have been used)
- Prescription must be followed
- Participant must be fully implementing NMP

Credit: conservationfund.org
NM-5N Precision Nutrient Management on Cropland – Nitrogen Application

• A LUMPED practice covering multiple precision technologies:
  – Variable Rate Nitrogen Applications
  – Zone Applications
  – Two or More N Apps on Highly Managed Hayland
  – Injection at Sidedress

NM-5N Precision Nutrient Management on Cropland – Nitrogen Application

• A LUMPED practice covering multiple precision technologies:
  – Three or More Split Applications on Small Grains  
    (Note: Choose NM-4 for Two Splits)
  – Two or More Split Sidedress Applications on Corn or Cotton  
    (Note: Choose NM-3C for One Sidedress App)
  – So-called “Starter” Applications do NOT count as a split!
• Read the spec and make sure you follow all relevant guidance
NM-5N Precision Nutrient Management on Cropland – Nitrogen Application

- All split applications, including the first split, will be applied at the highest demand growth stage (e.g. 5-leaf stage or at least 12”)
- Subsequent sidedress applications must be applied at least 14 days after the most recent application
- Total N rates on corn cannot exceed 1 lb/bushel of expected crop yield

Credit: morningagclips.com

NM-5N Sign-Up

- Annual Practice eligible for one PY Carryover
- VACS Sign-Up Deadline: April 1 (though Districts can require earlier sign-up)
- Participants must submit their NMP to the District
- Participants shall provide written verification of the recommendation and the resulting applications (e.g. lab test results, work order or bill, as-applied application map of field) to the District within 45 days of the final N application
NM-5N Payment

- Final payment based on total acres that were sampled and applied according to rates advised by the results
- 75% Cost-Share on the application charge up to a maximum amount of $8/acre.
- Acres receiving a zero application rate based on a PSNT also qualify for the $8 per acre rate.
- Additionally, costs for PSNT or fall soil nitrate tests are reimbursed will be reimbursed at a flat rate of $8 per sample (up to one PSNT per field)
- Currently no per sample cost-share is available for zone soil fertility tests.

Other Key NM Practices

- **NM-5P** Precision Nutrient Management on Cropland – Phosphorus Application
- **NM-6** Manure Injection
- **NM-7** Cover Crop for Managing Liquid or Semi-Solid Manure
NM-5P Precision Nutrient Management on Cropland – Phosphorus Application

- Very similar to NM-5N except for phosphorus applications
- This practice supports multiple enhanced NM technologies to be applied to row crops, specialty crops, small grains and highly managed hayland
- All applications for this practice must be based upon test results, regardless of whether organic nutrients have been utilized in the past
- Fields that have received biosolids within the past 24 months are not eligible

NM-5P Precision Nutrient Management on Cropland – Phosphorus Application

- Zone or grid fertility samples must be utilized
  - Zones shall be no larger than 20 acres and based on soil type
  - Grid size shall be 1 to 4 acres in size
- Results will be used to develop a P prescription
- Prescription must be followed
- Participant must be fully implementing NMP

Credit: agronomicsolutions.com
NM-5P Sign-Up

- Annual Practice eligible for one PY Carryover
- VACS Sign-Up Deadline: April 1 (though Districts can require earlier sign-up)
- Participants must submit their NMP to the District
- Participants shall provide written verification of the recommendation and the resulting applications (e.g. lab test results, work order or bill, as-applied application map of field) to the District within 45 days of the final P application

NM-5P Payment

- Final payment based on total acres that were sampled and applied according to rates advised by the results
- 75% Cost-Share on the application charge up to a maximum amount of $8/acre.
- Currently no per sample cost-share is available for zone/grid soil fertility tests.

Credit: blog.ucsusa.org
NM-6 Manure Injection

- Annual practice for placement of manure below the surface of the ground on cropland or pastureland using direct manure injection equipment.
- Applicants must practice no-till farming in order to be eligible.
- Injection must occur according to rates prescribed in fully implemented NMP.
- Acres that receive rates above the NMP prescription are not eligible.
**NM-6 Manure Injection**

- Participants must provide written verification of the injection application to the District within 30 days of the application, indicating:
  - Fields and acres injected
  - Application rates
  - Type of injection equipment used
  - Person applying manure (e.g. contractor)
- Flat incentive payment of $45 per acre

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**Quick Note: NM-7 Cover Crop for Managing Liquid or Semi-Solid Manure**

- Highly complex spec which uses a cover crop as part of an intense nutrient management program
- Created to help liquid/semi-solid manure generating operations improve nitrogen and phosphorus management through applications to actively growing crops; definitely a niche practice!
- **Does not apply to farms that import manure**

Credit: cdrf.org