Nutrient Management

Conservation Practice Job Sheet ***Maine NRCS 590***

Practice Information

Nutrient management may be used on any area of land where plant nutrients are applied to enhance yields and maintain or improve chemical and biological condition of the soil. The source of plant nutrients may be from organic wastes, commercial fertilizer, legumes, regulated residuals, or crop residue.

The objective is to apply the proper amount of nutrients at the appropriate time to achieve the desired yield and minimize loss of nutrients into surface or groundwater supplies.

Operation and Maintenance

The producer is responsible for safe operation and maintenance of this practice including all equipment. The producer is also responsible for operating within guidelines of local, state, and federal laws that apply. Operation and Maintenance includes the following:

- Periodic plan review to determine if adjustments or modifications to the plan are needed. As a minimum, Nutrient Management Plans will be reviewed and revised with each soil test cycle, not to exceed 5 years.
- NMPs for livestock operations will be reviewed annually and updated or revised as appropriate.
- Manure from each storage or source will be sampled and analyzed at minimum, once every five years. Changes in management that affect manure nutrient content, manure consistency, and/or manure quantity, will necessitate additional manure sampling and analyses, and a NMP update or revision.
- Changes in acreage amounts or crops which affect the utilization of manure nutrients produced on-farm (or imported) also necessitate a review of the NMP, and an update or revision as appropriate.
- Manure will not be applied anytime between December 1 and March 15 in accordance with Maine State Nutrient Management Law, nor anytime when soils are frozen or covered with ice or snow.
- Use correct manure and by-product sampling techniques to ensure that application rates for the materials in your Nutrient Management Plan will supply nutrients in adequate quantities to meet crop needs, and prevent over-application of valuable nutrients. http://anlab.umesci.maine.edu/soillab_files/forms/Manure.pdf
- Protection of fertilizer and organic by-product storage facilities from weather and accidental leakage or spillage.
- Calibration of application equipment to ensure uniform distribution of material at planned rates.
- Documentation of the actual rate at which nutrients were applied. When the actual rates used differ from the recommended and planned rates, records will indicate the reasons for the differences.
- Maintaining records to document plan implementation. As applicable, records include:
  - Soil, plant tissue, water, manure, and organic by-product analyses resulting in recommendations for nutrient application,
  - Quantities, analyses and sources of nutrients applied,
  - Dates and method(s) of nutrient applications,
  - Weather conditions and soil moisture at the time of application; lapsed time to manure incorporation, rainfall or irrigation event.
  - Crops planted, planting and harvest dates, yields, and crop residues removed,
  - Dates of plan review, name of reviewer, and recommended changes resulting from the review.

Nutrient Management – Specifications Sheet

- Records should be maintained for five years; or for a period longer than five years if required by other Federal, state or local ordinances, or program or contract requirements.

- Workers should be protected from and avoid unnecessary contact with plant nutrient sources. Extra caution must be taken when handling ammoniacal nutrient sources, or when dealing with organic wastes stored in unventilated enclosures.

- Material generated from cleaning nutrient application equipment should be utilized in an environmentally safe manner. Excess material should be collected and stored or field applied in an appropriate manner.

- Nutrient containers should be recycled in compliance with state and local guidelines or regulations.

Nutrient Management – Specifications Sheet

Landowner_____ Field number_____
Planner _____ Date_____

Purpose (check all that apply)	
Budget and supply nutrients for plant production	Utilize manure/organic material as a nutrient source
Minimize agricultural nonpoint source pollution (water quality)	Maintain or improve soil condition
Protect air quality by reducing nitrogen emissions	

Table 1. Field Conditions and Recommendations

Crop sequence/rotation by year	**Projected Yields**

Current soil test levels (ppm or lb/ac)					
N	**P**	**K**	**pH**	**S.O.M.%**	**EC**

Recommended nutrients/amendments to meet expected yield					
Crop	**N**	**P2O5**	**K2O**	**Lime**	**Other**

Table 2. Nutrient Sources

Credits	**N**	**P2O5**	**K2O**
		Pounds per acre	
1. Nitrogen credits from previous legume crop			
2. Residual from long-term manure application			
3. Irrigation water			
4. Total credits			

Plant available nutrients applied to field		**N**			**P2O5**			**K2O**		
		Crop A	Crop B	Crop C	Crop A	Crop B	Crop C	Crop A	Crop B	Crop C
5. Credits (from row 4, above)										
6. Fertilizer	Starter									
	Other*									
7. Manure/organic material*										
8. **Subtotal (sum of lines 5, 6, and 7)**										
9. **Nutrients recommended (from table 1)**										
10. **Nutrient status (subtract line 9 from line 8)**										

Nutrient Management – Specifications Sheet

If line 10 is a negative number, this is the amount of *additional nutrients needed* to meet the crop recommendation.
If line 10 is a positive number, this is the amount by which the available nutrients *exceed the crop requirements*.

Nutrient Management Specifications

Amount to be applied (lb/ac)	**N**		**P_2O_5**		**K_2O**	
Method, form, and timing of application:						

* Analysis attached for manure or other material.

Nutrient Management – Job Sketch

Attach aerial photo of the field, showing any sensitive areas and required setback zones. Inside each sketched field, enter total field acres and net application acres. Other relevant information, such as complementary practices or adjacent field or tract conditions may be included.

Scale 1" = _____ft. (NA indicates sketch not to scale: grid size=1/2 by 1/2 inch)

CHECK OUT:

Date Completed:_____

Remarks:_____

Checked by:_____ Date:_____

Approved by:_____ Date:_____

Nutrient Management – Job Sketch

Recordkeeping: Manure and Nutrient Application

Date	Crop	Tract/Field	Manure - number of Loads/field	Manure - Gal/acre Tons/acre	Fertilizer Type	Fert. Applied Pounds/field	Fert. Applied Pounds/acre	Soil Moisture **W**et, **M**oist, **D**ry	Weather Conditions

Notes - include reasons for differences in actual vs. planned applications, weather factors, plant populations, problems etc.:

Nutrient Management – Job Sketch

Recordkeeping: Crop Yields

Date of harvest	Tract/field	Acres	Number of hay bales	Hay Tons Field Total	Silage Loads Total	Silage Tons Total	Yield Goal tons/acre	Actual Yield tons/acre

Notes: