



**Crop Consultant Program**  
**Ottauquechee Natural Resources Conservation District**  
**28 Farmvu Drive • White River Jct., VT • 05001**

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**Nutrient Management Plan**

Farm Name: \_\_\_\_\_ Prepared by: \_\_\_\_\_  
Farmer: \_\_\_\_\_  
Address: \_\_\_\_\_ Date: \_\_\_\_\_  
  
Phone: \_\_\_\_\_  
Fax: \_\_\_\_\_  
Email: \_\_\_\_\_

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**Farm Description**

**Farm Type:** \_\_\_\_\_

**Conservation Considerations:** Identify known or suspected concerns such as impaired surface and ground water or inadequate storage or manure management facilities.

**Nutrient Management Goals:** (example) Produce good yields and good quality crops. Utilize manure and fertilizer efficiently, effectively and economically. Follow management practices to protect environment in accordance with Vermont Accepted Agricultural Practices and USDA/NRCS guidelines.

**Receiving Waters**

Watershed	Brooks, Rivers, Tributaries



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**Nutrient History, Lime, Fertilizer & Manure**

**Cornfields:**

**Hay fields:**

**Other fields:**

**Animals**

Types	Numbers	Weight	AnimalUnits(1000#)	

**Land**

Crop	Corn	Hay	Alf Hay	Pasture	Other	Total	AU/acre
Owned							
Rented							
Total							

Animal Units/Acre and percent of feed purchased will give you an idea if you have sufficient land base for the amount of manure produced. Higher density farms are more likely to need to manage for excess phosphorus accumulation and consider off farm manure disposal alternatives.

	Low Density	Medium Density	High Density
Animal Units/Acre	<1.25	1.25	>2.25
Feed Purchased	<50%	50-80%	>80%



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**Nutrients**

**Feed**

Item	Amount	%DM	%CP	%P	%K	#N	#P	#K
Total Feed								

**Phosphorus Reduction- feed and manure**

In the future, phosphorus content of manure will likely be the determining factor for the application rate of manure. Research has shown (Satterly and Wu)\* we can reduce dietary phosphorus in dairy diets from approximately .48% to .38% and not decrease milk production. This will reduce phosphorus excretion in the manure by 25-30%. This translates into 25-30% less land required for manure disposal. A strategy of reducing dietary phosphorus levels is a win-win situation for dairy producers, since both feed costs and environmental risk/cost of manure disposal are reduced.

\* Satter, L.D. and Wu, Z. **Phosphorus-Nutritional Management of Phosphorus in Dairy and Beef Operations.** U.S. Dairy Forage Research Center, USDA-Agricultural Research Service and Dairy Science Dept. U. of Wisconsin-Madison

**Fertilizer**

Item	Amount	%N	%P	%K	#N	#P	#K
Total Fert.							
Feed&Fert.							



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**Manure**  
**Production Estimate**

Animal Group	AU (1000lb)	Days Year	Cubic Feet (AU*Days*2.1)	Gallons (CF*7.5)	Tons (CF/48)	Bedding	Milkhouse	Total
<b>Total</b>								

**Spreaders**

Name	Type	Dimensions	CF	Tons	Gallons

**Storage**

Name	Type	Dimensions	CF	Tons	Gallons

**Waste Management System:** Storage Structure/Field stack

- **Storage**
  
- **Loading of Manure/ Wastes**
  
- **Unloading/Field**







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**Environmental Considerations**

**Application of nutrients will follow the general conditions of the USDA and VT LFO regulations and AAP's outlined below:**

1. Nutrients will not be spread within 25 feet of a pond, river, or stream.
2. Nutrients will not be applied to frozen or snow -covered soil.
3. Nutrients will not be applied within 100 feet of wells, 200 feet from Town wells and/or as mandated.
4. Nutrients will not be spread in a diversion channel, waterway or in any areas where there may be a significant concentrated flow.
5. Nutrients will not be spread over areas of exposed bedrock or on frozen soil.
6. Odors will be minimized by incorporation within 48 hours on corn silage land.
7. Manure shall not be applied during normal flooding periods on fields with historical flooding. None on this farm)
8. Soil loss levels are within "T" (acceptable loss values) using the Revised Universal Soil Loss equation (RUSLE).

**Records:** Record manure and fertilizer applications as well as crop harvest on record keeping forms in records section. Record field, date and amounts, such as pounds/acre of fertilizer, loads/field manure and bales, or loads of crop harvested. If using loads tell spreader or wagon used and estimated size of load. Records are important because they can help adjust future nutrient applications as well as locate crop production problems.

Field level records shall be maintained to document the following items found in the nutrient management plan:

- a) Soil test results and recommended nutrient application rates by field.
- b) Quantities and sources of nutrients applied
- c) Specific dates nutrients were applied
- d) Methods by which nutrients were applied
- e) Crop rotation and sequence.
- f) Crops planted and dates of planting
- g) Harvest dates and yield
- h) Results of water quality tests, plant tissue, or manure tests when completed
- i) Annual reviews including the identification of the person completing the review and recommendations that resulted from the review.
- j) Off-site use of manure



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**Environmental concerns:** Maps show suggested setbacks and buffers for identified environmental concerns. A 100 feet setback from identified houses (estimated location) for manure and nitrogen application is recommended. It is recommended to identify the actual location of wells and springs and create setback from them. Likewise any surface water such as brooks, streams, lakes and ponds that are within 50 feet of fields should be identified. Surface water should have a 50 feet manure application and tillage setback if there is channelized flow from the field, and 25 feet if there is sheet flow. It is recommended that manure be applied to growing hay in spring or after cut for next harvest. Manure applied in late fall will be less well utilized and more of a potential for loss. Identification of environmental concerns and adopting appropriate practices will be an on going obligation.

Field inventories should be completed (See attached inventory sheet).

**Phosphorus:** P Index can be used to help assess potential impact of P on high P fields. Factors considered in addition to P level include nutrient application method and timing; soil erosion, flooding frequency and runoff class; soil reactive Aluminum and buffer width.

**Maps:** Maps with field boundaries, acreages, environmental concerns, soil types, and fertilizer and manure recommendations. Maps are for farm management purposes and can be adjusted as necessary.

**Operation and Maintenance (O&M):** Farm will operate and maintain the animal waste management system constructed according to O&M information provided with NRCS design of system components.

**Plan Review:** This plan will be updated annually and annual report submitted per client needs.



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*Typical values for total nutrient content of manure (UVM).*

Species/type	Dry matter	Total N	NH <sub>4</sub> -N	Organic N	P <sub>2</sub> O <sub>5</sub>	K <sub>2</sub> O	Mg	Ca
	%				lb/1,000 gallon			
Dairy, liquid	7.5	23	11	12	11	20	4	15
	%				lb/ton			
Dairy, semi-solid	15.5	9	3.5	5.5	4.5	7.5	2	5.5
Dairy, solid (>20%DM)	29	10	2	8	6	9	3	13
Beef	23	12	3	9	6	12	1.5	---
Hog	9	14	8	6	11	11	1.5	---
Sheep	25	23	7	16	8	20	2.5	---
Poultry, layers	40	37	18	19	56	32	9	10
Poultry, broilers	70	73	19	54	63	46	13	30
Horse	37	9	1	8	6	11	4	---

Note: Dairy manure values are from samples analyzed by the UVM Agricultural and Environmental Lab, 1992-1996. Values for other manures are from *Penn State Agronomy Guide* (1997-1998), University of MD Extension Fact Sheet 512, and Ontario Ministry of Agriculture and Food Factsheet No. 85-109.









Field#	Field	Crop	Date	Load/Field	Date	Tillage	Load=(Spreader, Gal., Tons)
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Field#	Field	Crop	Date	Load/Field	Date	Tillage	Load=(Spreader, Gal., Tons)
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Fertilizer

Farm:

Year:

Field#	Field	Crop	Date	N/P/K	Lbs/Acre	Date	N/P/K	Lbs/Acre	Date	N/P/K	Lbs/Acre
1											
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3											
4											
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Harvest

Farm:

Year:

Field#	Field	Crop	Date	Quantity	Date	Quantity	Date	Quantity	Date	Quantity
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