



Draft-outline
March 26, 2014

H.S. Jansen and Sons Farm Ltd.
2014 NMP

EMERALD BAY AG SERVICES
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H.S. Jansen and Sons Farm Ltd.

Prepared For:

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Objective:

This paper is for the purpose of defining a comprehensive nutrient management plan to ensure efficient and responsible use of manure nutrients produced on the farm. The Jansen Dairy farm is located above an unconfined aquifer that supplies water to neighboring properties that is very susceptible to leaching of excess nutrients.

This outline is the first step in producing a complete nutrient plan for the farm that will ensure that any on farm nutrients produced are applied in amounts that correspond to crop requirements and at times that will give us the best chance for good crop utilization

2014 Objectives and timetable

	Event	Responsibilities	Actions
April 1,2014	Complete soil and manure sampling	To determine starting soil nutrient content.	Manure and 1 soil sample taken Completed
April 15,2014	Complete Spring manure application plan	To ensure spring manure application amounts match with in season crop nitrogen requirements.	No manure applied to subject fields preplant
April 20,2014	Soil texture mapping	Veris map subject field on the east side of Knob Hill road for soil texture.	Completed April 13th
June 10,2014	Apply 15,000 gallons effluent after 1 st cut and 2 nd cut alfalfa crops	To check soil nitrogen status for possible in crop nitrogen application if required.	
July 15, 2014	Whole Farm Nitrogen report.	Summarize total nitrogen application for the farm	
Sept 1, 2014	Completed Nutrient Management plan for 2014 growing season.		
Oct 2014	Complete post-harvest soil testing	To determine soil nutrient levels after crops are harvested and before and soil amendments are added or tillage operations are preformed	Annually
Nov/Dec 2014	Complete NMP for the upcoming year	Match after crop residual soil nutrient content with proposed crop production requirements and available manure resources.	Annually

2015, 2016

	Event	Responsibilities	Actions
March/April	Soil conditions	Determine when soil conditions become acceptable to begin manure application. To conform with no spreading on Snow covered, frozen or saturated ground	Determine when spreading can start
April May	Manure application and incorporation	Ensure appropriate amounts of nutrients are applied to reduce nutrient leaching or runoff.	Record all application events.
June 10	Pre Side Dress nitrogen soil testing on Corn fields	To check soil nitrogen status for possible in crop nitrogen application if required.	Apply required nitrogen to complete current crop growth.
Oct 2015	Complete post-harvest soil testing	To determine soil nutrient levels after crops are harvested and before and soil amendments are added or tillage operations are preformed	Take Geo Referenced samples for the same spots in the field so an accurate evaluation of soil condition changes can be made.
Nov/Dec 2015	Complete NMP for the upcoming year	Match after crop residual soil nutrient content with proposed crop production requirements and available manure resources.	Produce a Farm Events book for the coming year that will achieve the proper manure application rates on the farm that fall within the nutrient management plan.

Tools

Standard

- Soil texture mapping to define subsoil texture zones as to leaching potential
- Soil texturing to 24". (60 cm)
- Annual solid and liquid manure testing
- Annual on farm nutrient balance (nutrient imports verses exports)
- Logging manure application dates and locations

Optional

- Use data logger and soil moisture sensors to manage irrigation to reduce nutrient flushing
- Install 6 foot dry wells to determine any nitrogen leaching
- Use absorbent products (Zeolites) to bind nitrogen compounds in the manure and soil.
- Balance rations with excess nutrients in manure kept at a minimum.
- Logging manure application logging equipment.
- Crop selection and rotations

Proposed 2014 Subject field nutrient application plan

1. Apply with alfalfa seed (2x2)100 pounds per acre 24-10-0-13S-1B
2. After 1st and 2nd cuts cut apply 15,000 US gallons per acre (0.5 inch) dairy effluent

Note:

Soil moisture loggers will be used to ensure that there is no leaching through the root zone. Sand/Sandy loam has a water holding capacity of 0.75 to 1.2 inches of water per foot so at 50% WHC application of 15,000 gallons per acre (0.55inch) of the Dairy Flush Effluent water should be safe from leaching. This would apply 33 pounds of nitrogen per acre which is the amount required to grow 0.6 tons of 20% protein alfalfa hay. Normal 1st year cut SB 1 ton plus per acre per cut.

This program will allow H.S. Jansen and Sons Dairy Farm to utilize the effluent water produced without having to use Gun application in season on the corn crop while applying the nutrients when the plants are actively growing and can use them.