

Nutrient Management Plan For Animal Waste Utilization
03-28-2014

This plan has been prepared for:

*Franklin Finisher Farm
George Howard Moore
4152 Swift Creek School
Road
Whitakers, NC 27891-9434
(252) 904-0580*

This plan has been developed by:

*Charlie Bass
Franklin Co. SWCD
101-B
South Bickett Blvd.
Louisburg, NC 27549-2483
(919) 496-3137 x 3*

Charlie Bass
Developer Signature

Type of Plan: Nitrogen Only with Manure Only

Owner/Manager/Producer Agreement

I (we) understand and agree to the specifications and the operation and maintenance procedures established in this nutrient management plan which includes an animal waste utilization plan for the farm named above. I have read and understand the Required Specifications concerning animal waste management that are included with this plan.

G.H. Moore Jr
Signature (owner)

3-28-14
Date

Signature (manager or producer)

Date

This plan meets the minimum standards and specifications of the U.S. Department of Agriculture - Natural Resources Conservation Service or the standard of practices adopted by the Soil and Water Conservation Commission.

Plan Approved By: *Charlie Bass*
Technical Specialist Signature

3/28/14
Date

Nutrients applied in accordance with this plan will be supplied from the following source(s):

Commercial Fertilizer is not included in this plan.

S75	Swine Wean-Finish Lagoon Liquid waste generated 5,246,536 gals/year by a 6,761 animal Swine Wean-Finish Lagoon Liquid operation. This production facility has waste storage capacities of approximately 180 days.				
Estimated Pounds of Plant Available Nitrogen Generated per Year					
Broadcast	9457				
Incorporated	11348				
Injected	11348				
Irrigated	9457				
	Max. Avail. PAN (lbs) *	Actual PAN Applied (lbs)	PAN Surplus/ Deficit (lbs)	Actual Volume Applied (Gallons)	Volume Surplus/ Deficit (Gallons)
Year 1	9,457	13184	-3,727	7,313,988	-2,067,452

Note: In source ID, S means standard source, U means user defined source.

* Max. Available PAN is calculated on the basis of the actual application method(s) identified in the plan for this source.

The table shown below provides a summary of the crops or rotations included in this plan for each field. Realistic Yield estimates are also provided for each crop in the plan. In addition, the Leaching Index for each field is shown, where available.

Planned Crops Summary

Tract	Field	Total Acres	Useable Acres	Leaching Index (LI)	Soil Series	Crop Sequence	RYE
5950	1	39.11	26.23	N/A	Georgeville	Fescue Pasture	4.9 Tons
5950	2	20.71	12.42	N/A	Georgeville	Fescue Pasture	4.9 Tons
5950	3	20.00	16.50	N/A	Georgeville	Fescue Pasture	4.9 Tons
5950	4	20.00	16.50	N/A	Georgeville	Fescue Pasture	4.9 Tons

PLAN TOTALS: 99.82 71.65

LI	Potential Leaching	Technical Guidance
< 2	Low potential to contribute to soluble nutrient leaching below the root zone.	None
>= 2 & <= 10	Moderate potential to contribute to soluble nutrient leaching below the root zone.	Nutrient Management (590) should be planned.
> 10	High potential to contribute to soluble nutrient leaching below the root zone.	Nutrient Management (590) should be planned. Other conservation practices that improve the soils available water holding capacity and improve nutrient use efficiency should be considered. Examples are Cover Crops (340) to scavenge nutrients, Sod-Based Rotations (328), Long-Term No-Till (778), and edge-of-field practices such as Filter Strips (393) and Riparian Forest Buffers (391).

The Waste Utilization table shown below summarizes the waste utilization plan for this operation. This plan provides an estimate of the number of acres of cropland needed to use the nutrients being produced. The plan requires consideration of the realistic yields of the crops to be grown, their nutrient requirements, and proper timing of applications to maximize nutrient uptake.

This table provides an estimate of the amount of nitrogen required by the crop being grown and an estimate of the nitrogen amount being supplied by manure or other by-products, commercial fertilizer and residual from previous crops. An estimate of the quantity of solid and liquid waste that will be applied on each field in order to supply the indicated quantity of nitrogen from each source is also included. A balance of the total manure produced and the total manure applied is included in the table to ensure that the plan adequately provides for the utilization of the manure generated by the operation.

Waste Utilization Table

Year 1																	
Tract	Field	Source ID	Soil Series	Total Acres	Use, Acres	Crop	RYE	Applic. Period	Nitrogen PA Nutrient Req'd (lbs/A)	Com. Fert. Nutrient Applied (lbs/A)	Res. (lbs/A)	Manure PA Nutrient Applied (lbs/A)	Applic. Method	Liquid Manure Applied (acre)	Solid Manure Applied (acre)	Liquid Manure Applied (Field) 1000 gals	Solid Manure Applied (Field) tons
5950	1	S75	Georgeville	39.11	26.23	Fescue Pasture	4.9 Tons	8/1-7/31	*184	0	0	184	Irrig.	102.08	0.00	2,677.54	0.00
5950	2	S75	Georgeville	20.71	12.42	Fescue Pasture	4.9 Tons	8/1-7/31	*184	0	0	184	Irrig.	102.08	0.00	1,267.83	0.00
5950	3	S75	Georgeville	20.00	16.50	Fescue Pasture	4.9 Tons	8/1-7/31	*184	0	0	184	Irrig.	102.08	0.00	1,684.31	0.00
5950	4	S75	Georgeville	20.00	16.50	Fescue Pasture	4.9 Tons	8/1-7/31	*184	0	0	184	Irrig.	102.08	0.00	1,684.31	0.00
														Total Applied, 1000 gallons	7,313.99		
														Total Produced, 1000 gallons	5,246.54		
														Balance, 1000 gallons	-2,067.45		
														Total Applied, tons	0.00		
														Total Produced, tons	0.00		
														Balance, tons	0.00		

Notes: 1. In the tract column, ~ symbol means leased, otherwise, owned. 2. Symbol * means user entered data.

The Irrigation Application Factors for each field in this plan are shown in the following table. Infiltration rate varies with soils. If applying waste nutrients through an irrigation system, you must apply at a rate that will not result in runoff. This table provides the maximum application rate per hour that may be applied to each field selected to receive wastewater. It also lists the maximum application amount that each field may receive in any one application event.

Irrigation Application Factors

Tract	Field	Soil Series	Application Rate (inches/hour)	Application Amount (inches)
5950	1	Georgeville	0.30	1.0
5950	2	Georgeville	0.30	1.0
5950	3	Georgeville	0.30	1.0
5950	4	Georgeville	0.30	1.0

The Available Waste Storage Capacity table provides an estimate of the number of days of storage capacity available at the end of each month of the plan. Available storage capacity is calculated as the design storage capacity in days minus the number of days of net storage volume accumulated. The start date is a value entered by the user and is defined as the date prior to applying nutrients to the first crop in the plan at which storage volume in the lagoon or holding pond is equal to zero.

Available storage capacity should be greater than or equal to zero and less than or equal to the design storage capacity of the facility. If the available storage capacity is greater than the design storage capacity, this indicates that the plan calls for the application of nutrients that have not yet accumulated. If available storage capacity is negative, the estimated volume of accumulated waste exceeds the design storage volume of the structure. Either of these situations indicates that the planned application interval in the waste utilization plan is inconsistent with the structure's temporary storage capacity.

Available Waste Storage Capacity

Source Name	Swine Wean-Finish Lagoon Liquid		Design Storage Capacity (Days)
Start Date	9/1		180
Plan Year	Month	Available Storage Capacity (Days) *	
1	1	174	
1	2	171	
1	3	165	
1	4	180	
1	5	180	
1	6	175	
1	7	169	
1	8	180	
1	9	180	
1	10	180	
1	11	180	
1	12	174	

* Available Storage Capacity is calculated as of the end of each month.

Required Specifications For Animal Waste Management

- 1. Animal waste shall not reach surface waters of the state by runoff, drift, manmade conveyances, direct application, or direct discharge during operation or land application. Any discharge of waste that reaches surface water is prohibited.**
- 2. There must be documentation in the design folder that the producer either owns or has an agreement for use of adequate land on which to properly apply the waste. If the producer does not own adequate land to properly dispose of the waste, he/she shall provide evidence of an agreement with a landowner, who is within a reasonable proximity, allowing him/her the use of the land for waste application. It is the responsibility of the owner of the waste production facility to secure an update of the Nutrient Management Plan when there is a change in the operation, increase in the number of animals, method of application, receiving crop type, or available land.**
- 3. Animal waste shall be applied to meet, but not exceed, the nitrogen needs for realistic crop yields based upon soil type, available moisture, historical data, climatic conditions, and level of management, unless there are regulations that restrict the rate of applications for other nutrients.**
- 4. Animal waste shall be applied to land eroding less than 5 tons per acre per year. Waste may be applied to land eroding at more than 5 tons per acre per year but less than 10 tons per acre per year provided grass filter strips are installed where runoff leaves the field (see USDA, NRCS Field Office Technical Guide Standard 393 - Filter Strips).**
- 5. Odors can be reduced by injecting the waste or by disking after waste application. Waste should not be applied when there is danger of drift from the land application field.**
- 6. When animal waste is to be applied on acres subject to flooding, waste will be soil incorporated on conventionally tilled cropland. When waste is applied to conservation tilled crops or grassland, the waste may be broadcast provided the application does not occur during a season prone to flooding (see "Weather and Climate in North Carolina" for guidance).**

- 7. Liquid waste shall be applied at rates not to exceed the soil infiltration rate such that runoff does not occur offsite or to surface waters and in a method which does not cause drift from the site during application. No ponding should occur in order to control odor and flies.**
- 8. Animal waste shall not be applied to saturated soils, during rainfall events, or when the soil surface is frozen.**
- 9. Animal waste shall be applied on actively growing crops in such a manner that the crop is not covered with waste to a depth that would inhibit growth. The potential for salt damage from animal waste should also be considered.**
- 10. Nutrients from waste shall not be applied in fall or winter for spring planted crops on soils with a high potential for leaching. Waste/nutrient loading rates on these soils should be held to a minimum and a suitable winter cover crop planted to take up released nutrients. Waste shall not be applied more than 30 days prior to planting of the crop or forages breaking dormancy.**
- 11. Any new swine facility sited on or after October 1, 1995 shall comply with the following: The outer perimeter of the land area onto which waste is applied from a lagoon that is a component of a swine farm shall be at least 50 feet from any residential property boundary and canal. Animal waste, other than swine waste from facilities sited on or after October 1, 1995, shall not be applied closer than 25 feet to perennial waters.**
- 12. Animal waste shall not be applied closer than 100 feet to wells.**
- 13. Animal waste shall not be applied closer than 200 feet of dwellings other than those owned by the landowner.**
- 14. Waste shall be applied in a manner not to reach other property and public right-of-ways.**

15. **Animal waste shall not be discharged into surface waters, drainageways, or wetlands by a discharge or by over-spraying. Animal waste may be applied to prior converted cropland provided the fields have been approved as a land application site by a "technical specialist". Animal waste shall not be applied on grassed waterways that discharge directly into water courses, and on other grassed waterways, waste shall be applied at agronomic rates in a manner that causes no runoff or drift from the site.**
16. **Domestic and industrial waste from washdown facilities, showers, toilets, sinks, etc., shall not be discharged into the animal waste management system.**
17. **A protective cover of appropriate vegetation will be established on all disturbed areas (lagoon embankments, berms, pipe runs, etc.). Areas shall be fenced, as necessary, to protect the vegetation. Vegetation such as trees, shrubs, and other woody species, etc., are limited to areas where considered appropriate. Lagoon areas should be kept mowed and accessible. Berms and structures should be inspected regularly for evidence of erosion, leakage, or discharge.**
18. **If animal production at the facility is to be suspended or terminated, the owner is responsible for obtaining and implementing a "closure plan" which will eliminate the possibility of an illegal discharge, pollution, and erosion.**
19. **Waste handling structures, piping, pumps, reels, etc., should be inspected on a regular basis to prevent breakdowns, leaks, and spills. A regular maintenance checklist should be kept on site.**
20. **Animal waste can be used in a rotation that includes vegetables and other crops for direct human consumption. However, if animal waste is used on crops for direct human consumption, it should only be applied pre-plant with no further applications of animal waste during the crop season.**
21. **Highly visible markers shall be installed to mark the top and bottom elevations of the temporary storage (pumping volume) of all waste treatment lagoons. Pumping shall be managed to maintain the liquid level between the markers. A marker will be required to mark the maximum storage volume for waste storage ponds.**

- 22. Waste shall be tested within 60 days of utilization and soil shall be tested at least annually at crop sites where waste products are applied. Nitrogen shall be the rate-determining nutrient, unless other restrictions require waste to be applied based on other nutrients, resulting in a lower application rate than a nitrogen based rate. Zinc and copper levels in the soils shall be monitored and alternative crop sites shall be used when these metals approach excessive levels. pH shall be adjusted and maintained for optimum crop production. Soil and waste analysis records shall be kept for a minimum of five years. Poultry dry waste application records shall be maintained for a minimum of three years. Waste application records for all other waste shall be maintained for five (5) years.**
- 23. Dead animals will be disposed of in a manner that meets North Carolina regulations.**

Crop Notes

The following crop note applies to field(s): 1, 2, 3, 4

Fescue: Piedmont

Adaptation: Well-adapted.

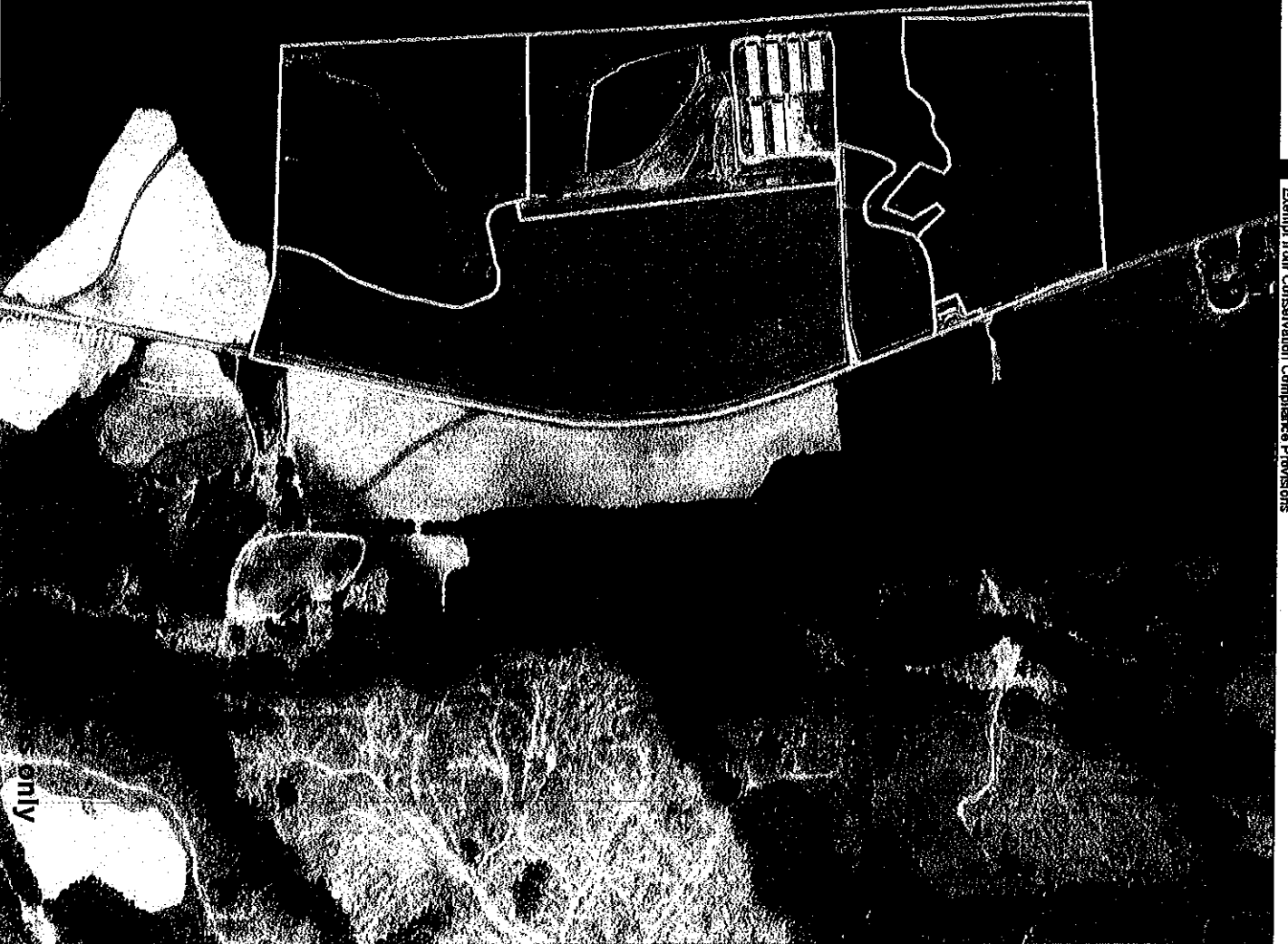
In the Piedmont, tall fescue can be planted Aug. 20 to Oct. 10 (best) and Feb. 15 to Mar. 20. For pure-stand broadcast seedings use 20 to 30 lb/ac., for drilled use 15 to 20 lb/ac. seed. Use certified seed to avoid introducing weeds or annual ryegrass. Plant seed 0.25" to 0.5" deep for pure stands, 0.25" in mixture with clovers. Soil test for preplant and maintenance lime, phosphorus, and potassium recommendations. Apply 40 to 60 lb/ac nitrogen at planting for pure stands only. Do not apply N for mixtures with clovers but use proper legume inoculation techniques. Apply 150 to 200 lb/ac. N to pure-stand fescue for hay production; reduce N rates by 25% for grazing. Apply N Feb. 1 to Mar. 20 and Aug. 20 to Sept. 30, with equal amounts in each window. Refer to NCSU Technical Bulletin 305 Production and Utilization of Pastures and Forages in North Carolina for additional information or consult your regional agronomist or extension agent for assistance.

Franklin County FSA Farm 3734 Tract 5950

Wetland Determination Identifiers

- Restricted Use
- ▽ Limited Restrictions
- Exempt from Conservation Compliance Provisions

Disclaimer: Wetland Identifiers do not represent the size, shape, or specific determination of the area. Refer to your original determination (CPA-026 and attached maps) for exact wetland boundaries and determinations, or contact NRCS.



Field	Acres	Crop	HEL	CRP
1	39.11		Y	
3	20.71		Y	
4	17.82		Y	

Total Cropland Acres
77.6

Map Created:
October 29, 2012