

**State of North Carolina
Department of Environment and Natural Resources
Division of Water Resources**

Animal Waste Management Systems

Request for Certificate of Coverage

Facility Currently Covered by an Expiring State Non-Discharge General Permit

On September 30, 2014, the North Carolina State Non-Discharge General Permits for Animal Waste Management Systems will expire. As required by these permits, facilities that have been issued Certificates of Coverage to operate under these State Non-Discharge General Permits must apply for renewal at least 180 days prior to their expiration date. Therefore, all applications must be received by the Division of Water Resources by no later than **April 1, 2014**.

Please do not leave any question unanswered. Please verify all information and make any necessary corrections below.

Application must be signed and dated by the Permittee.

1. Facility Number: 760013 and Certificate of Coverage Number: AWC760013
2. Facility Name: Oakwood Farms
3. Landowner's name (same as on the Waste Management Plan): Thomas Lawrence
4. Landowner's mailing address: 6679 Lawrence Farm Rd
City/State: Seagrove NC Zip: 273418220
Telephone Number (include area code): (336)879-2204 E-mail: tomhil@rtmc.net
5. Facility's physical address: 6679 Lawrence Farm Rd
City: Seagrove State: NC Zip: 27341
6. County where facility is located: Randolph
7. Farm Manager's name (If different than the Landowner): _____
8. Farm Manager's telephone number (include area code): _____
9. Integrator's name (if there is not an integrator write "None"): Murphy-Brown LLC
10. Operator in Charge (OIC) name: William Lawrence Jr Telephone Number _____ OIC # _____
11. Lessee's name (if there is not a lessee write "None"): _____
12. Indicate animal operation type and number:

Swine

Wean to Finish
Wean to Feeder
Farrow to Finish
Feeder to Finish 1000
Farrow to Wean
Farrow to Feeder
Boar/Stud
Gilts
Other

Horses - Horses
Horses - Other

Cattle

Dairy Calf
Dairy Heifer
Milk Cow
Dry Cow
Beef Stocker Calf
Beef Feeder 430
Beef Brood Cow
Other

Sheep - Sheep
Sheep - Other

Dry Poultry

Non Laying Chickens
Laying Chickens
Turkeys
Other
Pullets
Turkey Poults

Wet Poultry

Non Laying Pullets
Layers

RECEIVED/DIVISION OF
MAR 31 2014
Water Quality Planning
Operations Department

Mail one (1) copy of the most recent Waste Utilization Plan (WUP) along with the field maps for this facility with this completed and signed application as required by NC General Statutes 143-215.10C(d) to the address below. The WUP must be signed by the owner and a certified technical specialist.

As a second option to mailing paper copies of the application package, you can scan and email one signed copy of the application and the WUP to: animalpermits@ncdenr.gov

I attest that this application has been reviewed by me and is accurate and complete to the best of my knowledge. I understand that, if all required parts of this application are not completed and that if all required supporting information and attachments are not included, this application package will be returned to me as incomplete. **Note:** In accordance with NC General Statutes 143-215.6A and 143-215.6B, any person who knowingly makes any false statement, representation, or certification in any application may be subject to civil penalties up to \$25,000 per violation. (18 U.S.C. Section 1001 provides a punishment by a fine of not more than \$10,000 or imprisonment of not more than 5 years, or both for a similar offense.)

Printed Name of Signing Official (Landowner, or if multiple Landowners all landowners should sign. If Landowner is a corporation, signature should be by a principal executive officer of the corporation):

Name: William Thomas Lawrence, Jr. Title: Owner

Signature: William Thomas Lawrence, Jr. Date: 3-17-14
DBA Oakwood Farms

Name: William Lawrence Jr. Title: OTC

Signature: William Lawrence Jr. Date: 3-17-14

Name: Phyllis D. Lawrence Title: _____

Signature: Phyllis D. Lawrence Date: 3-17-14

THE COMPLETED APPLICATION SHOULD BE SENT TO THE FOLLOWING ADDRESS:

NCDENR-DWR
Animal Feeding Operations Branch
1636 Mail Service Center
Raleigh, North Carolina 27699-1636

Telephone number: (919) 807-6464
E-mail: animalpermits@ncdenr.gov

William Thomas Lawrence Jr.
6679 Lawrence Farm Rd
Seagrove NC 27341-8220

N.C. Water Pollution Control System Operators
Certification Commission



William Thomas Lawrence, Jr.
Type Grade Cert#
Type Grade Cert#
AWA - 18880
AWB - 21611

is a duly Certified Operator under provisions of Article 3, Chapter 90-A of
the General Statutes of North Carolina

W. Corey Basinger
Chairman

2014

Nutrient Management Plan For Animal Waste Utilization

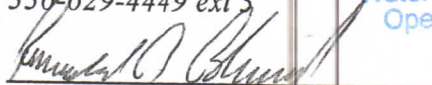
09-07-2010

This plan has been prepared for:

Oakwood Farm
Thomas Lawrence
6679 Lawrence Farm Rd
Seagrove, NC 27341
336-879-2204

This plan has been developed by:

Randy Blackwood
NRCS
847 Curry Dr
Asheboro, NC 27205
336-629-4449 ext 3



Developer Signature

RECEIVED/2010

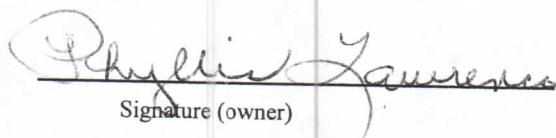
MAR 8 2010

Water Quality &
Operations

Type of Plan: Nutrient Management 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.



Signature (owner)

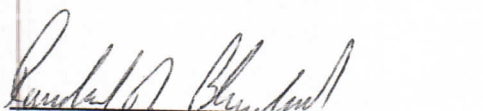
9-7-10
Date

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:



Technical Specialist Signature

9/7/2010
Date

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

Commercial Fertilizer is not included in this plan.

U1	T. Lawerence - Beef Combination waste generated 636.40 tons/year by a 430 animal Beef (Stocker) Paved Surface Scraped Manure operation.				
Estimated Pounds of Plant Available Nitrogen Generated per Year					
Broadcast	4227				
Incorporated	5838				
Injected	N/A				
Irrigated	N/A				
	Max. Avail. PAN (lbs) *	Actual PAN Applied (lbs)	PAN Surplus/ Deficit (lbs)	Actual Quantity Applied (Tons)	Surplus/Deficit (Tons)
Year 1	4,227	55697	-51,470	8,384.68	-7,748.28
Year 2	4,227	42972	-38,745	6,469.13	-5,832.73
Year 3	4,227	63563	-59,336	9,568.90	-8,932.50
Year 4	4,227	43045	-38,818	6,480.05	-5,843.65
Year 5	4,227	43240	-39,013	6,509.42	-5,873.02
Year 6	4,227	42522	-38,295	6,401.37	-5,764.97

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.

S7	Swine Feeder-Finish Lagoon Liquid waste generated 927,000 gals/year by a 1,000 animal Swine Finishing Lagoon Liquid operation. This production facility has waste storage capacities of approximately 60 days.				
Estimated Pounds of Plant Available Nitrogen Generated per Year					
Broadcast	2135				
Incorporated	3667				
Injected	4038				
Irrigated	2321				
	Max. Avail. PAN (lbs) *	Actual PAN Applied (lbs)	PAN Surplus/ Deficit (lbs)	Actual Volume Applied (Gallons)	Volume Surplus/ Deficit (Gallons)
Year 1	2,135	14309	-12,174	6,212,520	-5,285,520
Year 2	2,135	10485	-8,350	4,552,203	-3,625,203
Year 3	2,135	17083	-14,948	7,416,991	-6,489,991
Year 4	2,135	10551	-8,416	4,580,950	-3,653,950
Year 5	2,135	10673	-8,538	4,633,885	-3,706,885
Year 6	2,135	10386	-8,251	4,516,402	-3,589,402

This plan includes a User Defined Source to determine the total pounds of PAN in lieu of NRCS Standard values. Refer to North Carolina Cooperative Extension Service publication AG-439-42 entitled "Soil Facts: Use of On-Farm Records for Modifying a Certified Animal Waste Management Plan" for guidance on using on-farm records to develop a User Defined Source.

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.

Narrative

Updated 11/4/03

Acres derived from GIS where tracts have been digitized in to reflect land clearing activities not shown on FSA maps.

This waste utilization plan has been developed to be inclusive of both the Beef and Swine that are raised on this farm.

Part of this facility is used to confine Beef stockers for a portion of each year. Animals on the site are usually held for a period of approximately 90 days. Animals are brought on in stages from the late fall and winter. Animals confined here include and this WUP is developed for the following: 285 Stockers (Average wt. 600 lbs - confined 24 hrs/day); 55 Stockers (Average wt. 625 lbs - confined 24 hrs/day); and 90 brood cows (Average wt. 1200 lbs - confined 4 hrs/day). These times of confinement are only during the periods of late fall and winter. The total waste production is calculated to be approximately 207 cubic feet/day ($207 \text{ cu ft/day} \times 60 \text{ lbs/cu ft} = 12,420 \text{ lbs/day}$; $12,420 \text{ lbs/day} / 2000 = 6.21 \text{ tons/day}$). $6.21 \text{ tons/day} \times 94.4 \text{ days} = 587 \text{ tons}$ of waste to be properly applied to actively growing crops. Since application of the waste from these animals is not applied to the land separately, this WUP has been developed by factoring in all waste and creating one nutrient content for land application. These amounts have been derived by averaging standard values as well as actual waste analysis.

The other part of this facility is used for confinement of swine, feeder-to-finish. This facility has the physical space to house up to 1000 feeder-to finish swine. Thies two "pitted" houses are not always filled to capacity. Thie storage capacity for waste in these pits is as follows: House #1: $160' \times 5' \times 7.5' = 6000 \text{ cu ft}$; (House #2: $177' \times 3' \times 9.5' \times 2 = 10,089 \text{ cu ft}$. {Total volume; $6000 + 10,089 = 16,089 \text{ cu ft}$ }. No rain water or runoff enters the holding pits. Waste generated by these 1000 feeder-to-finish swine totals ($2.3 \text{ gals/animal/day} \times 1000 \text{ animals}$) = 2300 gals/day.

$2300 \text{ gals/day} / 7.48 \text{ gals/cu ft} = 307.5 \text{ cu ft}$ required per day for the 1000 feeder-to-finish swine.

$16,089 \text{ cu ft of volume available} / 307.5 \text{ cu ft/day} = 52.3 \text{ days of storage capacity}$. These calculations take into account the higher volumes for excess water. This volume of waste generated will be less during the cooler months when less water is used. Mortality is not factored in. An average of 20 animals are lost each year.

This WUP has sufficient land for the application of waste using the 52 day storage period. Proper management of the facility will be needed to insure that conditions are monitored and that waste is hauled in a manner that is in keeping with this plan.

WUP includes tract 9846 located in Montgomery Co., soils and photos provided by Montgomery SWCD.

Updated 8/28/2009 by RDB

Amended 9/7/2010 by RDB:

Added field 19 tract 3465 - was omitted in previous plan.

Total plan revision including PLAT assessment and inclusion into plan. All maps updated using FSA

Narrative

compliance photos (2008) for Randolph and Montgomery counties. Soils data updated as well.

Revised: 4/15/04 BBR

Corrected Tract # to Tract# . Also corrected field use

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, as well as the crop's P2O5 Removal Rate. The Leaching Index (LI) and the Phosphorous Loss Assessment Tool (PLAT) Rating are also provided for each field, where available.

If a field's PLAT Rating is High, any planned manure application is limited to the phosphorous removal rate of the harvested plant biomass for the crop rotation or multiple years in the crop sequence. Fields with a Very High PLAT Rating should receive no additional applications of manure. Regardless of the PLAT rating, starter fertilizers may be recommended in accordance with North Carolina State University guidelines or recommendations. The quantity of P2O5 applied to each crop is shown in the following table if the field's PLAT rating is High or Very High.

Planned Crops Summary

Tract	Field	Total Acres	Useable Acres	Plat Rating	LI	Soil Series	Crop Sequence	RYE	P2O5	
									Removal (lbs/acre)	Applied (lbs/acre)
3465	10	16.00	16.00	Medium	N/A	Badin	Soybeans, Manured, Full Season	41 bu.	N/A	N/A
							Corn, Grain	110 bu.	N/A	N/A
							Corn, Silage	20.2 Tons	N/A	N/A
							Wheat, Grain	51 bu.	N/A	N/A
							Small Grain, Silage	9.2 Tons	N/A	N/A
							Oats, Grain	86 bu.	N/A	N/A
3465	11	4.20	4.10	Low	N/A	Badin	Fescue Hay	3.2 Tons	N/A	N/A
3465	12	8.87	8.77	Medium	N/A	Georgeville	Soybeans, Manured, Full Season	48 bu.	38	N/A
							Corn, Grain	119 bu.	N/A	N/A
							Corn, Silage	21.9 Tons	74	N/A
							Wheat, Grain	57 bu.	N/A	N/A
							Small Grain, Silage	10.4 Tons	N/A	N/A
							Oats, Grain	97 bu.	N/A	N/A
3465	14	1.31	1.31	Medium	N/A	Georgeville	Soybeans, Manured, Full Season	48 bu.	N/A	N/A
							Corn, Grain	119 bu.	N/A	N/A
							Corn, Silage	21.9 Tons	N/A	N/A
							Wheat, Grain	57 bu.	N/A	N/A
							Small Grain, Silage	10.4 Tons	N/A	N/A
							Oats, Grain	97 bu.	N/A	N/A
3465	15	16.37	16.27	Medium	N/A	Georgeville	Soybeans, Manured, Full Season	48 bu.	N/A	N/A
							Corn, Grain	119 bu.	N/A	N/A
							Corn, Silage	21.9 Tons	N/A	N/A
							Wheat, Grain	57 bu.	N/A	N/A
							Small Grain, Silage	10.4 Tons	N/A	N/A
							Oats, Grain	97 bu.	N/A	N/A
3465	16	13.98	13.88	Medium	N/A	Georgeville	Soybeans, Manured, Full Season	48 bu.	38	N/A
							Corn, Grain	119 bu.	N/A	N/A

Planned Crops Summary

Tract	Field	Total Acres	Useable Acres	Plat Rating	LI	Soil Series	Crop Sequence	RYE	P2O5	
									Removal (lbs/acre)	Applied (lbs/acre)
							Corn, Silage	21.9 Tons	74	N/A
							Wheat, Grain	57 bu.	N/A	N/A
							Small Grain, Silage	10.4 Tons	N/A	N/A
							Oats, Grain	97 bu.	N/A	N/A
3465	17	7.76	7.66	Medium	N/A	Georgeville	Soybeans, Manured, Full Season	40 bu.	N/A	N/A
							Corn, Grain	100 bu.	N/A	N/A
							Corn, Silage	18.4 Tons	N/A	N/A
							Wheat, Grain	48 bu.	N/A	N/A
							Small Grain, Silage	8.8 Tons	N/A	N/A
							Oats, Grain	82 bu.	N/A	N/A
3465	18	4.17	4.07	Medium	N/A	Georgeville	Soybeans, Manured, Full Season	40 bu.	N/A	N/A
							Corn, Grain	100 bu.	N/A	N/A
							Corn, Silage	18.4 Tons	N/A	N/A
							Wheat, Grain	48 bu.	N/A	N/A
							Small Grain, Silage	8.8 Tons	N/A	N/A
							Oats, Grain	82 bu.	N/A	N/A
3465	19	9.80	9.80	Medium	N/A	Badin	Soybeans, Manured, Full Season	43 bu.	34	N/A
							Corn, Grain	114 bu.	50	N/A
							Corn, Silage	20.9 Tons	71	N/A
							Wheat, Grain	52 bu.	26	N/A
							Small Grain, Silage	9.5 Tons	51	N/A
							Oats, Grain	89 bu.	22	N/A
3465	2	11.20	11.10	Medium	N/A	Georgeville	Soybeans, Manured, Full Season	48 bu.	N/A	N/A
							Corn, Grain	119 bu.	N/A	N/A
							Corn, Silage	21.9 Tons	N/A	N/A
							Wheat, Grain	57 bu.	N/A	N/A
							Small Grain, Silage	10.4 Tons	N/A	N/A
							Oats, Grain	97 bu.	N/A	N/A
3465	3	5.12	5.00	Medium	N/A	Georgeville	Soybeans, Manured, Full Season	32 bu.	N/A	N/A
							Corn, Grain	84 bu.	N/A	N/A
							Corn, Silage	15.4 Tons	N/A	N/A
							Wheat, Grain	38 bu.	N/A	N/A
							Small Grain, Silage	7.0 Tons	N/A	N/A
							Oats, Grain	66 bu.	N/A	N/A
3465	4	4.71	4.50	Medium	N/A	Badin	Soybeans, Manured, Full Season	32 bu.	26	N/A
							Corn, Grain	84 bu.	N/A	N/A

356596

Database Version 3.1

Date Printed 9/7/2010

NOTE: Symbol * means user entered data.

PCS Page Page 2 of 7

Planned Crops Summary

Tract	Field	Total Acres	Useable Acres	Plat Rating	LI	Soil Series	Crop Sequence	RYE	P205	
									Removal (lbs/acre)	Applied (lbs/acre)
							Corn, Silage	15.4 Tons	52	N/A
							Wheat, Grain	38 bu.	N/A	N/A
							Small Grain, Silage	7.0 Tons	N/A	N/A
							Oats, Grain	66 bu.	N/A	N/A
3465	5	10.66	10.50	Low	N/A	Georgeville	Fescue Pasture	4.6 Tons	N/A	N/A
3465	6	31.11	31.00	Low	N/A	Georgeville	Fescue Pasture	4.6 Tons	N/A	N/A
3465	7	108.13	108.00	Low	N/A	Georgeville	Fescue Pasture	4.8 Tons	N/A	N/A
3465	9	2.62	2.52	Medium	N/A	Georgeville	Soybeans, Manured, Full Season	48 bu.	N/A	N/A
							Corn, Grain	119 bu.	N/A	N/A
							Corn, Silage	21.9 Tons	N/A	N/A
							Wheat, Grain	57 bu.	N/A	N/A
							Small Grain, Silage	10.4 Tons	N/A	N/A
							Oats, Grain	97 bu.	N/A	N/A
3490	1	5.10	5.00	Low	N/A	Georgeville	Soybeans, Manured, Full Season	48 bu.	38	N/A
							Corn, Grain	119 bu.	N/A	N/A
							Corn, Silage	21.9 Tons	N/A	N/A
							Wheat, Grain	57 bu.	N/A	N/A
							Small Grain, Silage	10.4 Tons	N/A	N/A
							Oats, Grain	97 bu.	N/A	N/A
3490	10	6.78	6.68	Low	N/A	Badin	Fescue Pasture	3.2 Tons	N/A	N/A
3490	11	7.99	7.79	Low	N/A	Badin	Fescue Pasture	2.8 Tons	N/A	N/A
3490	12	4.86	4.76	Low	N/A	Badin	Fescue Pasture	2.8 Tons	N/A	N/A
3490	13	2.30	2.30	Low	N/A	Badin	Soybeans, Manured, Full Season	36 bu.	N/A	N/A
							Corn, Grain	96 bu.	N/A	N/A
							Corn, Silage	17.6 Tons	N/A	N/A
							Wheat, Grain	44 bu.	N/A	N/A
							Small Grain, Silage	8.0 Tons	N/A	N/A
							Oats, Grain	75 bu.	N/A	N/A
3490	14	2.93	2.73	Low	N/A	Badin	Soybeans, Manured, Full Season	36 bu.	N/A	N/A
							Corn, Grain	96 bu.	N/A	N/A
							Corn, Silage	17.6 Tons	N/A	N/A
							Wheat, Grain	44 bu.	N/A	N/A
							Small Grain, Silage	8.0 Tons	N/A	N/A
							Oats, Grain	75 bu.	N/A	N/A
3490	15	2.62	2.52	Low	N/A	Badin	Soybeans, Manured, Full Season	36 bu.	N/A	N/A
							Corn, Grain	96 bu.	N/A	N/A

Planned Crops Summary

Tract	Field	Total Acres	Useable Acres	Plat Rating	LI	Soil Series	Crop Sequence	RYE	P2O5	
									Removal (lbs/acre)	Applied (lbs/acre)
							Corn, Silage	17.6 Tons	N/A	N/A
							Wheat, Grain	44 bu.	N/A	N/A
							Small Grain, Silage	8.0 Tons	N/A	N/A
							Oats, Grain	75 bu.	N/A	N/A
3490	16	0.94	0.94	Low	N/A	Badin	Soybeans, Manured, Full Season	41 bu.	N/A	N/A
							Corn, Grain	110 bu.	N/A	N/A
							Corn, Silage	20.2 Tons	N/A	N/A
							Wheat, Grain	51 bu.	N/A	N/A
							Small Grain, Silage	9.2 Tons	N/A	N/A
							Oats, Grain	86 bu.	N/A	N/A
3490	17	8.86	8.76	Low	N/A	Georgeville	Soybeans, Manured, Full Season	46 bu.	N/A	N/A
							Corn, Grain	115 bu.	N/A	N/A
							Corn, Silage	21.2 Tons	N/A	N/A
							Wheat, Grain	55 bu.	N/A	N/A
							Small Grain, Silage	10.1 Tons	N/A	N/A
							Oats, Grain	94 bu.	N/A	N/A
3490	18	5.63	5.63	Low	N/A	Georgeville	Soybeans, Manured, Full Season	46 bu.	N/A	N/A
							Corn, Grain	115 bu.	N/A	N/A
							Corn, Silage	21.2 Tons	N/A	N/A
							Wheat, Grain	55 bu.	N/A	N/A
							Small Grain, Silage	10.1 Tons	N/A	N/A
							Oats, Grain	94 bu.	N/A	N/A
3490	19	3.06	3.06	Medium	N/A	Badin	Soybeans, Manured, Full Season	43 bu.	N/A	N/A
							Corn, Grain	114 bu.	N/A	N/A
							Corn, Silage	20.9 Tons	N/A	N/A
							Wheat, Grain	52 bu.	N/A	N/A
							Small Grain, Silage	9.5 Tons	N/A	N/A
							Oats, Grain	89 bu.	N/A	N/A
3490	2	9.91	9.81	Low	N/A	Georgeville	Soybeans, Manured, Full Season	46 bu.	N/A	N/A
							Corn, Grain	115 bu.	N/A	N/A
							Corn, Silage	21.2 Tons	N/A	N/A
							Wheat, Grain	55 bu.	N/A	N/A
							Small Grain, Silage	10.1 Tons	N/A	N/A
							Oats, Grain	94 bu.	N/A	N/A
3490	20	9.31	9.21	Low	N/A	Badin	Fescue Pasture	3.2 Tons	N/A	N/A
3490	21	2.95	2.95	Low	N/A	Badin	Fescue Pasture	3.2 Tons	N/A	N/A

Planned Crops Summary

Tract	Field	Total Acres	Useable Acres	Plat Rating	LI	Soil Series	Crop Sequence	RYE	P2O5	
									Removal (lbs/acre)	Applied (lbs/acre)
3490	3	6.27	6.27	Medium	N/A	Georgeville	Soybeans, Manured, Full Season	48 bu.	N/A	N/A
							Corn, Grain	119 bu.	N/A	N/A
							Corn, Silage	21.9 Tons	N/A	N/A
							Wheat, Grain	57 bu.	N/A	N/A
							Small Grain, Silage	10.4 Tons	N/A	N/A
							Oats, Grain	97 bu.	N/A	N/A
3490	4	7.90	7.90	Low	N/A	Badin	Fescue Pasture	3.2 Tons	N/A	N/A
3490	5	8.60	8.60	Low	N/A	Badin	Fescue Pasture	3.2 Tons	N/A	N/A
3490	6	3.58	3.58	Medium	N/A	Badin	Soybeans, Manured, Full Season	36 bu.	N/A	N/A
							Corn, Grain	96 bu.	N/A	N/A
							Corn, Silage	17.6 Tons	N/A	N/A
							Wheat, Grain	44 bu.	N/A	N/A
							Small Grain, Silage	8.0 Tons	N/A	N/A
							Oats, Grain	75 bu.	N/A	N/A
3490	7	5.53	5.53	Medium	N/A	Badin	Soybeans, Manured, Full Season	36 bu.	N/A	N/A
							Corn, Grain	96 bu.	N/A	N/A
							Corn, Silage	17.6 Tons	N/A	N/A
							Wheat, Grain	44 bu.	N/A	N/A
							Small Grain, Silage	8.0 Tons	N/A	N/A
							Oats, Grain	75 bu.	N/A	N/A
3490	9	1.10	1.10	Low	N/A	Badin	Fescue Pasture	3.2 Tons	N/A	N/A
9411	1	23.81	23.81	Medium	N/A	Badin	Soybeans, Manured, Full Season	43 bu.	N/A	N/A
							Corn, Grain	114 bu.	N/A	N/A
							Corn, Silage	20.9 Tons	N/A	N/A
							Wheat, Grain	52 bu.	N/A	N/A
							Small Grain, Silage	9.5 Tons	N/A	N/A
							Oats, Grain	89 bu.	N/A	N/A
9492	4	9.80	9.80	Low	N/A	Badin	Soybeans, Manured, Full Season	43 bu.	N/A	N/A
							Corn, Grain	114 bu.	N/A	N/A
							Corn, Silage	20.9 Tons	N/A	N/A
							Wheat, Grain	52 bu.	N/A	N/A
							Small Grain, Silage	9.5 Tons	N/A	N/A
							Oats, Grain	89 bu.	N/A	N/A
9846	1	17.87	17.87	Low	N/A	State-CP	Soybeans, Manured, Full Season	43 bu.	34	N/A
							Corn, Grain	119 bu.	52	N/A
							Corn, Silage	N/A	0	N/A

Planned Crops Summary

Tract	Field	Total Acres	Useable Acres	Plat Rating	LI	Soil Series	Crop Sequence	RYE	P2O5	
									Removal (lbs/acre)	Applied (lbs/acre)
							Wheat, Grain	57 bu.	29	N/A
							Small Grain, Silage	9.5 Tons	51	N/A
							Oats, Grain	97 bu.	24	N/A
9846	10	5.57	5.57	Medium	N/A	Georgeville	Soybeans, Manured, Full Season	48 bu.	N/A	N/A
							Corn, Grain	119 bu.	N/A	N/A
							Corn, Silage	21.9 Tons	N/A	N/A
							Wheat, Grain	57 bu.	N/A	N/A
							Small Grain, Silage	10.4 Tons	N/A	N/A
							Oats, Grain	97 bu.	N/A	N/A
9846	11	0.54	0.54	Medium	N/A	Georgeville	Soybeans, Manured, Full Season	48 bu.	N/A	N/A
							Corn, Grain	119 bu.	N/A	N/A
							Corn, Silage	21.9 Tons	N/A	N/A
							Wheat, Grain	57 bu.	N/A	N/A
							Small Grain, Silage	10.4 Tons	N/A	N/A
							Oats, Grain	97 bu.	N/A	N/A
9846	12	4.00	4.00	Medium	N/A	Georgeville	Soybeans, Manured, Full Season	48 bu.	N/A	N/A
							Corn, Grain	119 bu.	N/A	N/A
							Corn, Silage	21.9 Tons	N/A	N/A
							Wheat, Grain	57 bu.	N/A	N/A
							Small Grain, Silage	10.4 Tons	N/A	N/A
							Oats, Grain	97 bu.	N/A	N/A
9846	2	8.45	8.45	Medium	N/A	State-CP	Soybeans, Manured, Full Season	44 bu.	35	N/A
							Corn, Grain	119 bu.	N/A	N/A
							Corn, Silage	21.9 Tons	N/A	N/A
							Wheat, Grain	57 bu.	N/A	N/A
							Small Grain, Silage	10.4 Tons	N/A	N/A
							Oats, Grain	97 bu.	N/A	N/A
9846	3	5.43	5.43	Medium	N/A	Georgeville	Soybeans, Manured, Full Season	48 bu.	N/A	N/A
							Corn, Grain	119 bu.	N/A	N/A
							Corn, Silage	21.9 Tons	N/A	N/A
							Wheat, Grain	57 bu.	N/A	N/A
							Small Grain, Silage	10.4 Tons	N/A	N/A
							Oats, Grain	97 bu.	N/A	N/A
9846	6	6.47	6.47	Medium	N/A	Georgeville	Soybeans, Manured, Full Season	48 bu.	N/A	N/A
							Corn, Grain	119 bu.	N/A	N/A
							Corn, Silage	21.9 Tons	N/A	N/A

356596

Database Version 3.1

Date Printed 9/7/2010

NOTE: Symbol * means user entered data.

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Planned Crops Summary

Tract	Field	Total Acres	Useable Acres	Plat Rating	LI	Soil Series	Crop Sequence	RYE	P205	
									Removal (lbs/acre)	Applied (lbs/acre)
							Wheat, Grain	57 bu.	N/A	N/A
							Small Grain, Silage	10.4 Tons	N/A	N/A
							Oats, Grain	97 bu.	N/A	N/A
9846	7	2.77	2.77	Medium	N/A	Georgeville	Soybeans, Manured, Full Season	48 bu.	38	N/A
							Corn, Grain	119 bu.	52	N/A
							Corn, Silage	21.9 Tons	74	N/A
							Wheat, Grain	57 bu.	29	N/A
							Small Grain, Silage	10.4 Tons	56	N/A
							Oats, Grain	97 bu.	24	N/A
9846	8	0.68	0.68	Medium	N/A	Georgeville	Soybeans, Manured, Full Season	48 bu.	N/A	N/A
							Corn, Grain	119 bu.	N/A	N/A
							Corn, Silage	21.9 Tons	N/A	N/A
							Wheat, Grain	57 bu.	N/A	N/A
							Small Grain, Silage	10.4 Tons	N/A	N/A
							Oats, Grain	97 bu.	N/A	N/A

PLAN TOTALS: 447.62 444.99

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).

PLAT Index	Rating	P Management Recommendation
0 - 25	Low	No adjustment needed; N based application
25 - 50	Medium	No adjustment needed; N based application
51 - 100	High	Application limited to crop P removal
> 100	Very High	Starter P application only

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)	Comm. Fert. Nutrient Applied (lbs/A)	Res. (lbs/A)	Applic. Method	Manure PA Nutrient Applied (lbs/A)	Liquid Manure Applied (acre)	Solid Manure Applied (acre)	Liquid Manure Applied (Field)	Solid Manure Applied (Field)
									N	N	N		N	1000 gal/A	Tons	1000 gals	tons
3465	10	U1	Badin	16.00	16.00	Soybeans, Manured, Full Season	41 bu.	4/1-9/15	159	0	0	Broad.	159	0.00	23.94	0.00	382.98
3465	11	U1	Badin	4.20	4.10	Fescue Hay	3.2 Tons	8/1-7/31	139	0	0	Broad.	139	0.00	20.93	0.00	85.79
3465	12	U1	Georgeville	8.87	8.77	Soybeans, Manured, Full Season	48 bu.	4/1-9/15	186	0	0	Broad.	186	0.00	28.00	0.00	245.57
3465	14	U1	Georgeville	1.31	1.31	Soybeans, Manured, Full Season	48 bu.	4/1-9/15	186	0	0	Broad.	186	0.00	28.00	0.00	36.68
3465	15	U1	Georgeville	16.37	16.27	Soybeans, Manured, Full Season	48 bu.	4/1-9/15	186	0	0	Broad.	186	0.00	28.00	0.00	455.57
3465	16	U1	Georgeville	13.98	13.88	Soybeans, Manured, Full Season	48 bu.	4/1-9/15	186	0	0	Broad.	186	0.00	28.00	0.00	388.65
3465	17	U1	Georgeville	7.76	7.66	Soybeans, Manured, Full Season	40 bu.	4/1-9/15	155	0	0	Broad.	155	0.00	23.33	0.00	178.74
3465	18	U1	Georgeville	4.17	4.07	Soybeans, Manured, Full Season	40 bu.	4/1-9/15	155	0	0	Broad.	155	0.00	23.33	0.00	94.97
3465	19	U1	Badin	9.80	9.80	Soybeans, Manured, Full Season	43 bu.	4/1-9/15	166	0	0	Broad.	166	0.00	24.99	0.00	244.90
3465	2	U1	Georgeville	11.20	11.10	Soybeans, Manured, Full Season	48 bu.	4/1-9/15	186	0	0	Broad.	186	0.00	28.00	0.00	310.81
3465	3	U1	Georgeville	5.12	5.00	Soybeans, Manured, Full Season	32 bu.	4/1-9/15	124	0	0	Broad.	124	0.00	18.67	0.00	93.34
3465	4	U1	Badin	4.71	4.50	Soybeans, Manured, Full Season	32 bu.	4/1-9/15	124	0	0	Broad.	124	0.00	18.67	0.00	84.00
3465	5	U1	Georgeville	10.66	10.50	Fescue Pasture	4.6 Tons	8/1-7/31	150	0	0	Broad.	150	0.00	22.58	0.00	237.10
3465	6	U1	Georgeville	31.11	31.00	Fescue Pasture	4.6 Tons	8/1-7/31	150	0	0	Broad.	150	0.00	22.58	0.00	700.02
3465	7	U1	Georgeville	108.13	108.00	Fescue Pasture	4.8 Tons	8/1-7/31	156	0	0	Broad.	156	0.00	23.48	0.00	2,536.33
3465	9	U1	Georgeville	2.62	2.52	Soybeans, Manured, Full Season	48 bu.	4/1-9/15	186	0	0	Broad.	186	0.00	28.00	0.00	70.56

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)	Comm. Fert. Nutrient Applied (lbs/A)	Res. (lbs/A)	Applic. Method	Manure PA Nutrient Applied (lbs/A)	Liquid Manure Applied (acre)	Solid Manure Applied (acre)	Liquid Manure Applied (Field)	Solid Manure Applied (Field)
									N	N	N		N	1000 gal/A	Tons	1000 gals	tons
3490	1	S7	Georgeville	5.10	5.00	Soybeans, Manured, Full Season	48 bu.	4/1-9/15	186	0	0	Broad.	186	80.76	0.00	403.78	0.00
3490	10	S7	Badin	6.78	6.68	Fescue Pasture	3.2 Tons	8/1-7/31	104	0	0	Broad.	104	45.15	0.00	301.63	0.00
3490	11	S7	Badin	7.99	7.79	Fescue Pasture	2.8 Tons	8/1-7/31	91	0	0	Broad.	91	39.51	0.00	307.78	0.00
3490	12	S7	Badin	4.86	4.76	Fescue Pasture	2.8 Tons	8/1-7/31	91	0	0	Broad.	91	39.51	0.00	188.07	0.00
3490	13	S7	Badin	2.30	2.30	Soybeans, Manured, Full Season	36 bu.	4/1-9/15	139	0	0	Broad.	139	60.35	0.00	138.81	0.00
3490	14	S7	Badin	2.93	2.73	Soybeans, Manured, Full Season	36 bu.	4/1-9/15	139	0	0	Broad.	139	60.35	0.00	164.76	0.00
3490	15	S7	Badin	2.62	2.52	Soybeans, Manured, Full Season	36 bu.	4/1-9/15	139	0	0	Broad.	139	60.35	0.00	152.08	0.00
3490	16	S7	Badin	0.94	0.94	Soybeans, Manured, Full Season	41 bu.	4/1-9/15	159	0	0	Broad.	159	69.03	0.00	64.89	0.00
3490	17	S7	Georgeville	8.86	8.76	Soybeans, Manured, Full Season	46 bu.	4/1-9/15	178	0	0	Broad.	178	77.28	0.00	677.00	0.00
3490	18	S7	Georgeville	5.63	5.63	Soybeans, Manured, Full Season	46 bu.	4/1-9/15	178	0	0	Broad.	178	77.28	0.00	435.10	0.00
3490	19	S7	Badin	3.06	3.06	Soybeans, Manured, Full Season	43 bu.	4/1-9/15	166	0	0	Broad.	166	72.07	0.00	220.54	0.00
3490	2	S7	Georgeville	9.91	9.81	Soybeans, Manured, Full Season	46 bu.	4/1-9/15	178	0	0	Broad.	178	77.28	0.00	758.15	0.00
3490	20	S7	Badin	9.31	9.21	Fescue Pasture	3.2 Tons	8/1-7/31	104	0	0	Broad.	104	45.15	0.00	415.87	0.00
3490	21	S7	Badin	2.95	2.95	Fescue Pasture	3.2 Tons	8/1-7/31	104	0	0	Broad.	104	45.15	0.00	133.21	0.00
3490	3	S7	Georgeville	6.27	6.27	Soybeans, Manured, Full Season	48 bu.	4/1-9/15	186	0	0	Broad.	186	80.76	0.00	506.34	0.00
3490	4	S7	Badin	7.90	7.90	Fescue Pasture	3.2 Tons	8/1-7/31	104	0	0	Broad.	104	45.15	0.00	356.72	0.00
3490	5	S7	Badin	8.60	8.60	Fescue Pasture	3.2 Tons	8/1-7/31	104	0	0	Broad.	104	45.15	0.00	388.33	0.00
3490	6	S7	Badin	3.58	3.58	Soybeans, Manured, Full Season	36 bu.	4/1-9/15	139	0	0	Broad.	139	60.35	0.00	216.05	0.00
3490	7	S7	Badin	5.53	5.53	Soybeans, Manured, Full Season	36 bu.	4/1-9/15	139	0	0	Broad.	139	60.35	0.00	333.74	0.00
3490	9	S7	Badin	1.10	1.10	Fescue Pasture	3.2 Tons	8/1-7/31	104	0	0	Broad.	104	45.15	0.00	49.67	0.00
9411	1	U1	Badin	23.81	23.81	Soybeans, Manured, Full Season	43 bu.	4/1-9/15	166	0	0	Broad.	166	0.00	24.99	0.00	595.01
9492	4	U1	Badin	9.80	9.80	Soybeans, Manured, Full Season	43 bu.	4/1-9/15	166	0	0	Broad.	166	0.00	24.99	0.00	244.90

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)	Comm. Fert. Nutrient Applied (lbs/A)	Res. (lbs/A)	Applic. Method	Manure PA Nutrient Applied (lbs/A)	Liquid Manure Applied (acre)	Solid Manure Applied (acre)	Liquid Manure Applied (Field)	Solid Manure Applied (Field)
									N	N	N		N	1000 gal/A	Tons	1000 gals	tons
9846	1	U1	State-CP	17.87	17.87	Soybeans, Manured, Full Season	43 bu.	4/1-9/15	167	0	0	Broad.	167	0.00	25.14	0.00	449.26
9846	10	U1	Georgeville	5.57	5.57	Soybeans, Manured, Full Season	48 bu.	4/1-9/15	186	0	0	Broad.	186	0.00	28.00	0.00	155.96
9846	11	U1	Georgeville	0.54	0.54	Soybeans, Manured, Full Season	48 bu.	4/1-9/15	186	0	0	Broad.	186	0.00	28.00	0.00	15.12
9846	12	U1	Georgeville	4.00	4.00	Soybeans, Manured, Full Season	48 bu.	4/1-9/15	186	0	0	Broad.	186	0.00	28.00	0.00	112.00
9846	2	U1	State-CP	8.45	8.45	Soybeans, Manured, Full Season	44 bu.	4/1-9/15	*186	0	0	Broad.	186	0.00	28.00	0.00	236.61
9846	3	U1	Georgeville	5.43	5.43	Soybeans, Manured, Full Season	48 bu.	4/1-9/15	186	0	0	Broad.	186	0.00	28.00	0.00	152.04
9846	6	U1	Georgeville	6.47	6.47	Soybeans, Manured, Full Season	48 bu.	4/1-9/15	186	0	0	Broad.	186	0.00	28.00	0.00	181.17
9846	7	U1	Georgeville	2.77	2.77	Soybeans, Manured, Full Season	48 bu.	4/1-9/15	186	0	0	Broad.	186	0.00	28.00	0.00	77.56
9846	8	U1	Georgeville	0.68	0.68	Soybeans, Manured, Full Season	48 bu.	4/1-9/15	186	0	0	Broad.	186	0.00	28.00	0.00	19.04
Total Applied, 1000 gallons															6,212.52		
Total Produced, 1000 gallons															927.00		
Balance, 1000 gallons															-5,285.52		
Total Applied, tons																8,384.68	
Total Produced, tons																636.40	
Balance, tons																-7,748.28	

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

Waste Utilization Table

Year 2

Tract	Field	Source ID	Soil Series	Total Acres	Use. Acres	Crop	RYE	Applic. Period	Nitrogen PA Nutrient Req'd (lbs/A)	Comm. Fert. Nutrient Applied (lbs/A)	Res. (lbs/A)	Applic. Method	Manure PA Nutrient Applied (lbs/A)	Liquid Manure Applied (acre)	Solid Manure Applied (acre)	Liquid Manure Applied (Field)	Solid Manure Applied (Field)
									N	N	N		N	1000 gal/A	Tons	1000 gals	tons
3465	10	U1	Badin	16.00	16.00	Corn, Grain	110 bu.	2/15-6/30	119	0	20	Broad.	99	0.00	14.90	0.00	238.46
3465	11	U1	Badin	4.20	4.10	Fescue Hay	3.2 Tons	8/1-7/31	139	0	0	Broad.	139	0.00	20.93	0.00	85.79
3465	12	U1	Georgeville	8.87	8.77	Corn, Grain	119 bu.	2/15-6/30	129	0	20	Broad.	109	0.00	16.41	0.00	143.91
3465	14	U1	Georgeville	1.31	1.31	Corn, Grain	119 bu.	2/15-6/30	129	0	20	Broad.	109	0.00	16.41	0.00	21.50
3465	15	U1	Georgeville	16.37	16.27	Corn, Grain	119 bu.	2/15-6/30	129	0	20	Broad.	109	0.00	16.41	0.00	266.98
3465	16	U1	Georgeville	13.98	13.88	Corn, Grain	119 bu.	2/15-6/30	129	0	20	Broad.	109	0.00	16.41	0.00	227.76
3465	17	U1	Georgeville	7.76	7.66	Corn, Grain	100 bu.	2/15-6/30	108	0	20	Broad.	88	0.00	13.25	0.00	101.48
3465	18	U1	Georgeville	4.17	4.07	Corn, Grain	100 bu.	2/15-6/30	108	0	20	Broad.	88	0.00	13.25	0.00	53.92
3465	19	U1	Badin	9.80	9.80	Corn, Grain	114 bu.	2/15-6/30	123	0	20	Broad.	103	0.00	15.51	0.00	151.96
3465	2	U1	Georgeville	11.20	11.10	Corn, Grain	119 bu.	2/15-6/30	129	0	20	Broad.	109	0.00	16.41	0.00	182.14
3465	3	U1	Georgeville	5.12	5.00	Corn, Grain	84 bu.	2/15-6/30	91	0	20	Broad.	71	0.00	10.69	0.00	53.44
3465	4	U1	Badin	4.71	4.50	Corn, Grain	84 bu.	2/15-6/30	91	0	20	Broad.	71	0.00	10.69	0.00	48.10
3465	5	U1	Georgeville	10.66	10.50	Fescue Pasture	4.6 Tons	8/1-7/31	150	0	0	Broad.	150	0.00	22.58	0.00	237.10
3465	6	U1	Georgeville	31.11	31.00	Fescue Pasture	4.6 Tons	8/1-7/31	150	0	0	Broad.	150	0.00	22.58	0.00	700.02
3465	7	U1	Georgeville	108.13	108.00	Fescue Pasture	4.8 Tons	8/1-7/31	156	0	0	Broad.	156	0.00	23.48	0.00	2,536.33
3465	9	U1	Georgeville	2.62	2.52	Corn, Grain	119 bu.	2/15-6/30	129	0	20	Broad.	109	0.00	16.41	0.00	41.35
3490	1	S7	Georgeville	5.10	5.00	Corn, Grain	119 bu.	2/15-6/30	129	0	20	Broad.	109	47.33	0.00	236.63	0.00
3490	10	S7	Badin	6.78	6.68	Fescue Pasture	3.2 Tons	8/1-7/31	104	0	0	Broad.	104	45.15	0.00	301.63	0.00
3490	11	S7	Badin	7.99	7.79	Fescue Pasture	2.8 Tons	8/1-7/31	91	0	0	Broad.	91	39.51	0.00	307.78	0.00
3490	12	S7	Badin	4.86	4.76	Fescue Pasture	2.8 Tons	8/1-7/31	91	0	0	Broad.	91	39.51	0.00	188.07	0.00
3490	13	S7	Badin	2.30	2.30	Corn, Grain	96 bu.	2/15-6/30	104	0	20	Broad.	84	36.47	0.00	83.88	0.00
3490	14	S7	Badin	2.93	2.73	Corn, Grain	96 bu.	2/15-6/30	104	0	20	Broad.	84	36.47	0.00	99.57	0.00

Waste Utilization Table

Year 2

Tract	Field	Source ID	Soil Series	Total Acres	Use. Acres	Crop	RYE	Applic. Period	Nitrogen PA Nutrient Req'd (lbs/A)	Comm. Fert. Nutrient Applied (lbs/A)	Res. (lbs/A)	Applic. Method	Manure PA Nutrient Applied (lbs/A)	Liquid Manure Applied (acre)	Solid Manure Applied (acre)	Liquid Manure Applied (Field)	Solid Manure Applied (Field)
									N	N	N		N	1000 gal/A	Tons	1000 gals	tons
3490	15	S7	Badin	2.62	2.52	Corn, Grain	96 bu.	2/15-6/30	104	0	20	Broad.	84	36.47	0.00	91.91	0.00
3490	16	S7	Badin	0.94	0.94	Corn, Grain	110 bu.	2/15-6/30	119	0	20	Broad.	99	42.98	0.00	40.40	0.00
3490	17	S7	Georgeville	8.86	8.76	Corn, Grain	115 bu.	2/15-6/30	124	0	20	Broad.	104	45.15	0.00	395.55	0.00
3490	18	S7	Georgeville	5.63	5.63	Corn, Grain	115 bu.	2/15-6/30	124	0	20	Broad.	104	45.15	0.00	254.22	0.00
3490	19	S7	Badin	3.06	3.06	Corn, Grain	114 bu.	2/15-6/30	123	0	20	Broad.	103	44.72	0.00	136.84	0.00
3490	2	S7	Georgeville	9.91	9.81	Corn, Grain	115 bu.	2/15-6/30	124	0	20	Broad.	104	45.15	0.00	442.96	0.00
3490	20	S7	Badin	9.31	9.21	Fescue Pasture	3.2 Tons	8/1-7/31	104	0	0	Broad.	104	45.15	0.00	415.87	0.00
3490	21	S7	Badin	2.95	2.95	Fescue Pasture	3.2 Tons	8/1-7/31	104	0	0	Broad.	104	45.15	0.00	133.21	0.00
3490	3	S7	Georgeville	6.27	6.27	Corn, Grain	119 bu.	2/15-6/30	129	0	20	Broad.	109	47.33	0.00	296.73	0.00
3490	4	S7	Badin	7.90	7.90	Fescue Pasture	3.2 Tons	8/1-7/31	104	0	0	Broad.	104	45.15	0.00	356.72	0.00
3490	5	S7	Badin	8.60	8.60	Fescue Pasture	3.2 Tons	8/1-7/31	104	0	0	Broad.	104	45.15	0.00	388.33	0.00
3490	6	S7	Badin	3.58	3.58	Corn, Grain	96 bu.	2/15-6/30	104	0	20	Broad.	84	36.47	0.00	130.57	0.00
3490	7	S7	Badin	5.53	5.53	Corn, Grain	96 bu.	2/15-6/30	104	0	20	Broad.	84	36.47	0.00	201.68	0.00
3490	9	S7	Badin	1.10	1.10	Fescue Pasture	3.2 Tons	8/1-7/31	104	0	0	Broad.	104	45.15	0.00	49.67	0.00
9411	1	U1	Badin	23.81	23.81	Corn, Grain	114 bu.	2/15-6/30	123	0	20	Broad.	103	0.00	15.51	0.00	369.19
9492	4	U1	Badin	9.80	9.80	Corn, Grain	114 bu.	2/15-6/30	123	0	20	Broad.	103	0.00	15.51	0.00	151.96
9846	1	U1	State-CP	17.87	17.87	Corn, Grain	119 bu.	2/15-6/30	132	0	20	Broad.	112	0.00	16.86	0.00	201.30
9846	10	U1	Georgeville	5.57	5.57	Corn, Grain	119 bu.	2/15-6/30	129	0	20	Broad.	109	0.00	16.41	0.00	91.40
9846	11	U1	Georgeville	0.54	0.54	Corn, Grain	119 bu.	2/15-6/30	129	0	20	Broad.	109	0.00	16.41	0.00	8.86
9846	12	U1	Georgeville	4.00	4.00	Corn, Grain	119 bu.	2/15-6/30	129	0	20	Broad.	109	0.00	16.41	0.00	65.64
9846	2	U1	State-CP	8.45	8.45	Corn, Grain	119 bu.	2/15-6/30	129	0	20	Broad.	109	0.00	16.41	0.00	138.66
9846	3	U1	Georgeville	5.43	5.43	Corn, Grain	119 bu.	2/15-6/30	129	0	20	Broad.	109	0.00	16.41	0.00	89.10

Waste Utilization Table

Year 2

Tract	Field	Source ID	Soil Series	Total Acres	Use. Acres	Crop	RYE	Applic. Period	Nitrogen PA Nutrient Req'd (lbs/A)	Comm. Fert. Nutrient Applied (lbs/A)	Res. (lbs/A)	Applic. Method	Manure PA Nutrient Applied (lbs/A)	Liquid Manure Applied (acre)	Solid Manure Applied (acre)	Liquid Manure Applied (Field)	Solid Manure Applied (Field)
									N	N	N		N	1000 gal/A	Tons	1000 gals	tons
9846	6	U1	Georgeville	6.47	6.47	Corn, Grain	119 bu.	2/15-6/30	129	0	20	Broad.	109	0.00	16.41	0.00	106.17
9846	7	U1	Georgeville	2.77	2.77	Corn, Grain	119 bu.	2/15-6/30	129	0	20	Broad.	109	0.00	16.41	0.00	45.45
9846	8	U1	Georgeville	0.68	0.68	Corn, Grain	119 bu.	2/15-6/30	129	0	20	Broad.	109	0.00	16.41	0.00	11.16
Total Applied, 1000 gallons															4,552.20		
Total Produced, 1000 gallons															927.00		
Balance, 1000 gallons															-3,625.20		
Total Applied, tons																	6,469.13
Total Produced, tons																	636.40
Balance, tons																	-5,832.73

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

Waste Utilization Table

Year 3

Tract	Field	Source ID	Soil Series	Total Acres	Use. Acres	Crop	RYE	Applic. Period	Nitrogen PA Nutrient Req'd (lbs/A)	Comm. Fert. Nutrient Applied (lbs/A)	Res. (lbs/A)	Applic. Method	Manure PA Nutrient Applied (lbs/A)	Liquid Manure Applied (acre)	Solid Manure Applied (acre)	Liquid Manure Applied (Field)	Solid Manure Applied (Field)
									N	N	N		N	1000 gal/A	Tons	1000 gals	tons
3465	10	U1	Badin	16.00	16.00	Corn, Silage	20.2 Ton	2/15-6/30	216	0	0	Broad.	216	0.00	32.52	0.00	520.27
3465	11	U1	Badin	4.20	4.10	Fescue Hay	3.2 Tons	8/1-7/31	139	0	0	Broad.	139	0.00	20.93	0.00	85.79
3465	12	U1	Georgeville	8.87	8.77	Corn, Silage	21.9 Ton	2/15-6/30	*165	0	0	Broad.	165	0.00	24.84	0.00	217.84
3465	14	U1	Georgeville	1.31	1.31	Corn, Silage	21.9 Ton	2/15-6/30	234	0	0	Broad.	234	0.00	35.23	0.00	46.15
3465	15	U1	Georgeville	16.37	16.27	Corn, Silage	21.9 Ton	2/15-6/30	234	0	0	Broad.	234	0.00	35.23	0.00	573.14
3465	16	U1	Georgeville	13.98	13.88	Corn, Silage	21.9 Ton	2/15-6/30	*165	0	0	Broad.	165	0.00	24.84	0.00	344.77
3465	17	U1	Georgeville	7.76	7.66	Corn, Silage	18.4 Ton	2/15-6/30	197	0	0	Broad.	197	0.00	29.66	0.00	227.17
3465	18	U1	Georgeville	4.17	4.07	Corn, Silage	18.4 Ton	2/15-6/30	197	0	0	Broad.	197	0.00	29.66	0.00	120.70
3465	19	U1	Badin	9.80	9.80	Corn, Silage	20.9 Ton	2/15-6/30	224	0	0	Broad.	224	0.00	33.72	0.00	330.47
3465	2	U1	Georgeville	11.20	11.10	Corn, Silage	21.9 Ton	2/15-6/30	234	0	0	Broad.	234	0.00	35.23	0.00	391.02
3465	3	U1	Georgeville	5.12	5.00	Corn, Silage	15.4 Ton	2/15-6/30	165	0	0	Broad.	165	0.00	24.84	0.00	124.20
3465	4	U1	Badin	4.71	4.50	Corn, Silage	15.4 Ton	2/15-6/30	*100	0	0	Broad.	100	0.00	15.05	0.00	67.74
3465	5	U1	Georgeville	10.66	10.50	Fescue Pasture	4.6 Tons	8/1-7/31	150	0	0	Broad.	150	0.00	22.58	0.00	237.10
3465	6	U1	Georgeville	31.11	31.00	Fescue Pasture	4.6 Tons	8/1-7/31	150	0	0	Broad.	150	0.00	22.58	0.00	700.02
3465	7	U1	Georgeville	108.13	108.00	Fescue Pasture	4.8 Tons	8/1-7/31	156	0	0	Broad.	156	0.00	23.48	0.00	2,536.33
3465	9	U1	Georgeville	2.62	2.52	Corn, Silage	21.9 Ton	2/15-6/30	234	0	0	Broad.	234	0.00	35.23	0.00	88.77
3490	1	S7	Georgeville	5.10	5.00	Corn, Silage	21.9 Ton	2/15-6/30	234	0	0	Broad.	234	101.60	0.00	507.99	0.00
3490	10	S7	Badin	6.78	6.68	Fescue Pasture	3.2 Tons	8/1-7/31	104	0	0	Broad.	104	45.15	0.00	301.63	0.00
3490	11	S7	Badin	7.99	7.79	Fescue Pasture	2.8 Tons	8/1-7/31	91	0	0	Broad.	91	39.51	0.00	307.78	0.00
3490	12	S7	Badin	4.86	4.76	Fescue Pasture	2.8 Tons	8/1-7/31	91	0	0	Broad.	91	39.51	0.00	188.07	0.00
3490	13	S7	Badin	2.30	2.30	Corn, Silage	17.6 Ton	2/15-6/30	188	0	0	Broad.	188	81.63	0.00	187.74	0.00
3490	14	S7	Badin	2.93	2.73	Corn, Silage	17.6 Ton	2/15-6/30	188	0	0	Broad.	188	81.63	0.00	222.84	0.00

Waste Utilization Table

Year 3

Tract	Field	Source ID	Soil Series	Total Acres	Use. Acres	Crop	RYE	Applic. Period	Nitrogen PA Nutrient Req'd (lbs/A)	Comm. Fert. Nutrient Applied (lbs/A)	Res. (lbs/A)	Applic. Method	Manure PA Nutrient Applied (lbs/A)	Liquid Manure Applied (acre)	Solid Manure Applied (acre)	Liquid Manure Applied (Field)	Solid Manure Applied (Field)
									N	N	N		N	1000 gal/A	Tons	1000 gals	tons
3490	15	S7	Badin	2.62	2.52	Corn, Silage	17.6 Ton	2/15-6/30	188	0	0	Broad.	188	81.63	0.00	205.70	0.00
3490	16	S7	Badin	0.94	0.94	Corn, Silage	20.2 Ton	2/15-6/30	216	0	0	Broad.	216	93.78	0.00	88.16	0.00
3490	17	S7	Georgeville	8.86	8.76	Corn, Silage	21.2 Ton	2/15-6/30	227	0	0	Broad.	227	98.56	0.00	863.37	0.00
3490	18	S7	Georgeville	5.63	5.63	Corn, Silage	21.2 Ton	2/15-6/30	227	0	0	Broad.	227	98.56	0.00	554.88	0.00
3490	19	S7	Badin	3.06	3.06	Corn, Silage	20.9 Ton	2/15-6/30	224	0	0	Broad.	224	97.26	0.00	297.60	0.00
3490	2	S7	Georgeville	9.91	9.81	Corn, Silage	21.2 Ton	2/15-6/30	227	0	0	Broad.	227	98.56	0.00	966.85	0.00
3490	20	S7	Badin	9.31	9.21	Fescue Pasture	3.2 Tons	8/1-7/31	104	0	0	Broad.	104	45.15	0.00	415.87	0.00
3490	21	S7	Badin	2.95	2.95	Fescue Pasture	3.2 Tons	8/1-7/31	104	0	0	Broad.	104	45.15	0.00	133.21	0.00
3490	3	S7	Georgeville	6.27	6.27	Corn, Silage	21.9 Ton	2/15-6/30	234	0	0	Broad.	234	101.60	0.00	637.01	0.00
3490	4	S7	Badin	7.90	7.90	Fescue Pasture	3.2 Tons	8/1-7/31	104	0	0	Broad.	104	45.15	0.00	356.72	0.00
3490	5	S7	Badin	8.60	8.60	Fescue Pasture	3.2 Tons	8/1-7/31	104	0	0	Broad.	104	45.15	0.00	388.33	0.00
3490	6	S7	Badin	3.58	3.58	Corn, Silage	17.6 Ton	2/15-6/30	188	0	0	Broad.	188	81.63	0.00	292.22	0.00
3490	7	S7	Badin	5.53	5.53	Corn, Silage	17.6 Ton	2/15-6/30	188	0	0	Broad.	188	81.63	0.00	451.39	0.00
3490	9	S7	Badin	1.10	1.10	Fescue Pasture	3.2 Tons	8/1-7/31	104	0	0	Broad.	104	45.15	0.00	49.67	0.00
9411	1	U1	Badin	23.81	23.81	Corn, Silage	20.9 Ton	2/15-6/30	224	0	0	Broad.	224	0.00	33.72	0.00	802.91
9492	4	U1	Badin	9.80	9.80	Corn, Silage	20.9 Ton	2/15-6/30	224	0	0	Broad.	224	0.00	33.72	0.00	330.47
9846	1	U1	State-CP	17.87	17.87	Corn, Silage	N/A	2/15-6/30	*234	0	0	Broad.	234	0.00	35.23	0.00	629.50
9846	10	U1	Georgeville	5.57	5.57	Corn, Silage	21.9 Ton	2/15-6/30	234	0	0	Broad.	234	0.00	35.23	0.00	196.21
9846	11	U1	Georgeville	0.54	0.54	Corn, Silage	21.9 Ton	2/15-6/30	234	0	0	Broad.	234	0.00	35.23	0.00	19.02
9846	12	U1	Georgeville	4.00	4.00	Corn, Silage	21.9 Ton	2/15-6/30	234	0	0	Broad.	234	0.00	35.23	0.00	140.91
9846	2	U1	State-CP	8.45	8.45	Corn, Silage	21.9 Ton	2/15-6/30	234	0	0	Broad.	234	0.00	35.23	0.00	297.67
9846	3	U1	Georgeville	5.43	5.43	Corn, Silage	21.9 Ton	2/15-6/30	234	0	0	Broad.	234	0.00	35.23	0.00	191.28

Waste Utilization Table

Year 3

Tract	Field	Source ID	Soil Series	Total Acres	Use. Acres	Crop	RVE	Applic. Period	Nitrogen PA Nutrient Req'd (lbs/A)	Comm. Fert. Nutrient Applied (lbs/A)	Res. (lbs/A)	Applic. Method	Manure PA Nutrient Applied (lbs/A)	Liquid Manure Applied (acre)	Solid Manure Applied (acre)	Liquid Manure Applied (Field)	Solid Manure Applied (Field)
									N	N	N		N	1000 gal/A	Tons	1000 gals	tons
9846	6	U1	Georgeville	6.47	6.47	Corn, Silage	21.9 Ton	2/15-6/30	234	0	0	Broad.	234	0.00	35.23	0.00	227.92
9846	7	U1	Georgeville	2.77	2.77	Corn, Silage	21.9 Ton	2/15-6/30	234	0	0	Broad.	234	0.00	35.23	0.00	97.58
9846	8	U1	Georgeville	0.68	0.68	Corn, Silage	21.9 Ton	2/15-6/30	234	0	0	Broad.	234	0.00	35.23	0.00	23.95
Total Applied, 1000 gallons															7,416.99		
Total Produced, 1000 gallons																927.00	
Balance, 1000 gallons																-6,489.99	
Total Applied, tons																	9,568.90
Total Produced, tons																	636.40
Balance, tons																	-8,932.50

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

Waste Utilization Table

Year 4

Tract	Field	Source ID	Soil Series	Total Acres	Use. Acres	Crop	RYE	Applic. Period	Nitrogen PA Nutrient Req'd (lbs/A)	Comm. Fert. Nutrient Applied (lbs/A)	Res. (lbs/A)	Applic. Method	Manure PA Nutrient Applied (lbs/A)	Liquid Manure Applied (acre)	Solid Manure Applied (acre)	Liquid Manure Applied (Field)	Solid Manure Applied (Field)
									N	N	N		N	1000 gal/A	Tons	1000 gals	tons
3465	10	U1	Badin	16.00	16.00	Wheat, Grain	51 bu.	9/1-4/30	98	0	0	Broad.	98	0.00	14.75	0.00	236.05
3465	11	U1	Badin	4.20	4.10	Fescue Hay	3.2 Tons	8/1-7/31	139	0	0	Broad.	139	0.00	20.93	0.00	85.79
3465	12	U1	Georgeville	8.87	8.77	Wheat, Grain	57 bu.	9/1-4/30	110	0	0	Broad.	110	0.00	16.56	0.00	145.23
3465	14	U1	Georgeville	1.31	1.31	Wheat, Grain	57 bu.	9/1-4/30	110	0	0	Broad.	110	0.00	16.56	0.00	21.69
3465	15	U1	Georgeville	16.37	16.27	Wheat, Grain	57 bu.	9/1-4/30	110	0	0	Broad.	110	0.00	16.56	0.00	269.42
3465	16	U1	Georgeville	13.98	13.88	Wheat, Grain	57 bu.	9/1-4/30	110	0	0	Broad.	110	0.00	16.56	0.00	229.85
3465	17	U1	Georgeville	7.76	7.66	Wheat, Grain	48 bu.	9/1-4/30	93	0	0	Broad.	93	0.00	14.00	0.00	107.24
3465	18	U1	Georgeville	4.17	4.07	Wheat, Grain	48 bu.	9/1-4/30	93	0	0	Broad.	93	0.00	14.00	0.00	56.98
3465	19	U1	Badin	9.80	9.80	Wheat, Grain	52 bu.	9/1-4/30	100	0	0	Broad.	100	0.00	15.05	0.00	147.53
3465	2	U1	Georgeville	11.20	11.10	Wheat, Grain	57 bu.	9/1-4/30	110	0	0	Broad.	110	0.00	16.56	0.00	183.81
3465	3	U1	Georgeville	5.12	5.00	Wheat, Grain	38 bu.	9/1-4/30	73	0	0	Broad.	73	0.00	10.99	0.00	54.95
3465	4	U1	Badin	4.71	4.50	Wheat, Grain	38 bu.	9/1-4/30	73	0	0	Broad.	73	0.00	10.99	0.00	49.45
3465	5	U1	Georgeville	10.66	10.50	Fescue Pasture	4.6 Tons	8/1-7/31	150	0	0	Broad.	150	0.00	22.58	0.00	237.10
3465	6	U1	Georgeville	31.11	31.00	Fescue Pasture	4.6 Tons	8/1-7/31	150	0	0	Broad.	150	0.00	22.58	0.00	700.02
3465	7	U1	Georgeville	108.13	108.00	Fescue Pasture	4.8 Tons	8/1-7/31	156	0	0	Broad.	156	0.00	23.48	0.00	2,536.33
3465	9	U1	Georgeville	2.62	2.52	Wheat, Grain	57 bu.	9/1-4/30	110	0	0	Broad.	110	0.00	16.56	0.00	41.73
3490	1	S7	Georgeville	5.10	5.00	Wheat, Grain	57 bu.	9/1-4/30	110	0	0	Broad.	110	47.76	0.00	238.80	0.00
3490	10	S7	Badin	6.78	6.68	Fescue Pasture	3.2 Tons	8/1-7/31	104	0	0	Broad.	104	45.15	0.00	301.63	0.00
3490	11	S7	Badin	7.99	7.79	Fescue Pasture	2.8 Tons	8/1-7/31	91	0	0	Broad.	91	39.51	0.00	307.78	0.00
3490	12	S7	Badin	4.86	4.76	Fescue Pasture	2.8 Tons	8/1-7/31	91	0	0	Broad.	91	39.51	0.00	188.07	0.00
3490	13	S7	Badin	2.30	2.30	Wheat, Grain	44 bu.	9/1-4/30	85	0	0	Broad.	85	36.91	0.00	84.88	0.00
3490	14	S7	Badin	2.93	2.73	Wheat, Grain	44 bu.	9/1-4/30	85	0	0	Broad.	85	36.91	0.00	100.75	0.00

Waste Utilization Table

Year 4

Tract	Field	Source ID	Soil Series	Total Acres	Use. Acres	Crop	RYE	Applic. Period	Nitrogen PA Nutrient Req'd (lbs/A)	Comm. Fert. Nutrient Applied (lbs/A)	Res. (lbs/A)	Applic. Method	Manure PA Nutrient Applied (lbs/A)	Liquid Manure Applied (acre)	Solid Manure Applied (acre)	Liquid Manure Applied (Field)	Solid Manure Applied (Field)
									N	N	N		N	1000 gal/A	Tons	1000 gals	tons
3490	15	S7	Badin	2.62	2.52	Wheat, Grain	44 bu.	9/1-4/30	85	0	0	Broad.	85	36.91	0.00	93.00	0.00
3490	16	S7	Badin	0.94	0.94	Wheat, Grain	51 bu.	9/1-4/30	98	0	0	Broad.	98	42.55	0.00	40.00	0.00
3490	17	S7	Georgeville	8.86	8.76	Wheat, Grain	55 bu.	9/1-4/30	106	0	0	Broad.	106	46.02	0.00	403.16	0.00
3490	18	S7	Georgeville	5.63	5.63	Wheat, Grain	55 bu.	9/1-4/30	106	0	0	Broad.	106	46.02	0.00	259.11	0.00
3490	19	S7	Badin	3.06	3.06	Wheat, Grain	52 bu.	9/1-4/30	100	0	0	Broad.	100	43.42	0.00	132.86	0.00
3490	2	S7	Georgeville	9.91	9.81	Wheat, Grain	55 bu.	9/1-4/30	106	0	0	Broad.	106	46.02	0.00	451.48	0.00
3490	20	S7	Badin	9.31	9.21	Fescue Pasture	3.2 Tons	8/1-7/31	104	0	0	Broad.	104	45.15	0.00	415.87	0.00
3490	21	S7	Badin	2.95	2.95	Fescue Pasture	3.2 Tons	8/1-7/31	104	0	0	Broad.	104	45.15	0.00	133.21	0.00
3490	3	S7	Georgeville	6.27	6.27	Wheat, Grain	57 bu.	9/1-4/30	110	0	0	Broad.	110	47.76	0.00	299.45	0.00
3490	4	S7	Badin	7.90	7.90	Fescue Pasture	3.2 Tons	8/1-7/31	104	0	0	Broad.	104	45.15	0.00	356.72	0.00
3490	5	S7	Badin	8.60	8.60	Fescue Pasture	3.2 Tons	8/1-7/31	104	0	0	Broad.	104	45.15	0.00	388.33	0.00
3490	6	S7	Badin	3.58	3.58	Wheat, Grain	44 bu.	9/1-4/30	85	0	0	Broad.	85	36.91	0.00	132.12	0.00
3490	7	S7	Badin	5.53	5.53	Wheat, Grain	44 bu.	9/1-4/30	85	0	0	Broad.	85	36.91	0.00	204.08	0.00
3490	9	S7	Badin	1.10	1.10	Fescue Pasture	3.2 Tons	8/1-7/31	104	0	0	Broad.	104	45.15	0.00	49.67	0.00
9411	1	U1	Badin	23.81	23.81	Wheat, Grain	52 bu.	9/1-4/30	100	0	0	Broad.	100	0.00	15.05	0.00	358.44
9492	4	U1	Badin	9.80	9.80	Wheat, Grain	52 bu.	9/1-4/30	100	0	0	Broad.	100	0.00	15.05	0.00	147.53
9846	1	U1	State-CP	17.87	17.87	Wheat, Grain	57 bu.	9/1-4/30	115	0	0	Broad.	115	0.00	17.31	0.00	309.37
9846	10	U1	Georgeville	5.57	5.57	Wheat, Grain	57 bu.	9/1-4/30	110	0	0	Broad.	110	0.00	16.56	0.00	92.24
9846	11	U1	Georgeville	0.54	0.54	Wheat, Grain	57 bu.	9/1-4/30	110	0	0	Broad.	110	0.00	16.56	0.00	8.94
9846	12	U1	Georgeville	4.00	4.00	Wheat, Grain	57 bu.	9/1-4/30	110	0	0	Broad.	110	0.00	16.56	0.00	66.24
9846	2	U1	State-CP	8.45	8.45	Wheat, Grain	57 bu.	9/1-4/30	110	0	0	Broad.	110	0.00	16.56	0.00	139.93
9846	3	U1	Georgeville	5.43	5.43	Wheat, Grain	57 bu.	9/1-4/30	110	0	0	Broad.	110	0.00	16.56	0.00	89.92

Waste Utilization Table

Year 4

Tract	Field	Source ID	Soil Series	Total Acres	Use. Acres	Crop	RYE	Applic. Period	Nitrogen PA Nutrient Req'd (lbs/A)	Comm. Fert. Nutrient Applied (lbs/A)	Res. (lbs/A)	Applic. Method	Manure PA Nutrient Applied (lbs/A)	Liquid Manure Applied (acre)	Solid Manure Applied (acre)	Liquid Manure Applied (Field)	Solid Manure Applied (Field)
									N	N	N		N	1000 gal/A	Tons	1000 gals	tons
9846	6	U1	Georgeville	6.47	6.47	Wheat, Grain	57 bu.	9/1-4/30	110	0	0	Broad.	110	0.00	16.56	0.00	107.14
9846	7	U1	Georgeville	2.77	2.77	Wheat, Grain	57 bu.	9/1-4/30	110	0	0	Broad.	110	0.00	16.56	0.00	45.87
9846	8	U1	Georgeville	0.68	0.68	Wheat, Grain	57 bu.	9/1-4/30	110	0	0	Broad.	110	0.00	16.56	0.00	11.26
Total Applied, 1000 gallons															4,580.95		
Total Produced, 1000 gallons																927.00	
Balance, 1000 gallons																-3,653.95	
Total Applied, tons																	6,480.05
Total Produced, tons																	636.40
Balance, tons																	-5,843.65

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

Waste Utilization Table

Year 5

Tract	Field	Source ID	Soil Series	Total Acres	Use. Acres	Crop	RYE	Applic. Period	Nitrogen PA Nutrient Req'd (lbs/A)	Comm. Fert. Nutrient Applied (lbs/A)	Res. (lbs/A)	Applic. Method	Manure PA Nutrient Applied (lbs/A)	Liquid Manure Applied (acre)	Solid Manure Applied (acre)	Liquid Manure Applied (Field)	Solid Manure Applied (Field)
									N	N	N		N	1000 gal/A	Tons	1000 gals	tons
3465	10	U1	Badin	16.00	16.00	Small Grain, Silage	9.2 Tons	9/1-3/31	99	0	0	Broad.	99	0.00	14.90	0.00	238.46
3465	11	U1	Badin	4.20	4.10	Fescue Hay	3.2 Tons	8/1-7/31	139	0	0	Broad.	139	0.00	20.93	0.00	85.79
3465	12	U1	Georgeville	8.87	8.77	Small Grain, Silage	10.4 Ton	9/1-3/31	112	0	0	Broad.	112	0.00	16.86	0.00	147.87
3465	14	U1	Georgeville	1.31	1.31	Small Grain, Silage	10.4 Ton	9/1-3/31	112	0	0	Broad.	112	0.00	16.86	0.00	22.09
3465	15	U1	Georgeville	16.37	16.27	Small Grain, Silage	10.4 Ton	9/1-3/31	112	0	0	Broad.	112	0.00	16.86	0.00	274.32
3465	16	U1	Georgeville	13.98	13.88	Small Grain, Silage	10.4 Ton	9/1-3/31	112	0	0	Broad.	112	0.00	16.86	0.00	234.03
3465	17	U1	Georgeville	7.76	7.66	Small Grain, Silage	8.8 Tons	9/1-3/31	95	0	0	Broad.	95	0.00	14.30	0.00	109.55
3465	18	U1	Georgeville	4.17	4.07	Small Grain, Silage	8.8 Tons	9/1-3/31	95	0	0	Broad.	95	0.00	14.30	0.00	58.21
3465	19	U1	Badin	9.80	9.80	Small Grain, Silage	9.5 Tons	9/1-3/31	103	0	0	Broad.	103	0.00	15.51	0.00	151.96
3465	2	U1	Georgeville	11.20	11.10	Small Grain, Silage	10.4 Ton	9/1-3/31	112	0	0	Broad.	112	0.00	16.86	0.00	187.15
3465	3	U1	Georgeville	5.12	5.00	Small Grain, Silage	7.0 Tons	9/1-3/31	76	0	0	Broad.	76	0.00	11.44	0.00	57.21
3465	4	U1	Badin	4.71	4.50	Small Grain, Silage	7.0 Tons	9/1-3/31	76	0	0	Broad.	76	0.00	11.44	0.00	51.49
3465	5	U1	Georgeville	10.66	10.50	Fescue Pasture	4.6 Tons	8/1-7/31	150	0	0	Broad.	150	0.00	22.58	0.00	237.10
3465	6	U1	Georgeville	31.11	31.00	Fescue Pasture	4.6 Tons	8/1-7/31	150	0	0	Broad.	150	0.00	22.58	0.00	700.02
3465	7	U1	Georgeville	108.13	108.00	Fescue Pasture	4.8 Tons	8/1-7/31	156	0	0	Broad.	156	0.00	23.48	0.00	2,536.33
3465	9	U1	Georgeville	2.62	2.52	Small Grain, Silage	10.4 Ton	9/1-3/31	112	0	0	Broad.	112	0.00	16.86	0.00	42.49
3490	1	S7	Georgeville	5.10	5.00	Small Grain, Silage	10.4 Ton	9/1-3/31	112	0	0	Broad.	112	48.63	0.00	243.14	0.00
3490	10	S7	Badin	6.78	6.68	Fescue Pasture	3.2 Tons	8/1-7/31	104	0	0	Broad.	104	45.15	0.00	301.63	0.00
3490	11	S7	Badin	7.99	7.79	Fescue Pasture	2.8 Tons	8/1-7/31	91	0	0	Broad.	91	39.51	0.00	307.78	0.00
3490	12	S7	Badin	4.86	4.76	Fescue Pasture	2.8 Tons	8/1-7/31	91	0	0	Broad.	91	39.51	0.00	188.07	0.00
3490	13	S7	Badin	2.30	2.30	Small Grain, Silage	8.0 Tons	9/1-3/31	86	0	0	Broad.	86	37.34	0.00	85.88	0.00
3490	14	S7	Badin	2.93	2.73	Small Grain, Silage	8.0 Tons	9/1-3/31	86	0	0	Broad.	86	37.34	0.00	101.94	0.00

Waste Utilization Table

Year 5

Tract	Field	Source ID	Soil Series	Total Acres	Use. Acres	Crop	R YE	Applic. Period	Nitrogen PA Nutrient Req'd (lbs/A)	Comm. Fert. Nutrient Applied (lbs/A)	Res. (lbs/A)	Applic. Method	Manure PA Nutrient Applied (lbs/A)	Liquid Manure Applied (acre)	Solid Manure Applied (acre)	Liquid Manure Applied (Field)	Solid Manure Applied (Field)
									N	N	N		N	1000 gal/A	Tons	1000 gals	tons
3490	15	S7	Badin	2.62	2.52	Small Grain, Silage	8.0 Tons	9/1-3/31	86	0	0	Broad.	86	37.34	0.00	94.09	0.00
3490	16	S7	Badin	0.94	0.94	Small Grain, Silage	9.2 Tons	9/1-3/31	99	0	0	Broad.	99	42.98	0.00	40.40	0.00
3490	17	S7	Georgeville	8.86	8.76	Small Grain, Silage	10.1 Ton	9/1-3/31	109	0	0	Broad.	109	47.33	0.00	414.57	0.00
3490	18	S7	Georgeville	5.63	5.63	Small Grain, Silage	10.1 Ton	9/1-3/31	109	0	0	Broad.	109	47.33	0.00	266.44	0.00
3490	19	S7	Badin	3.06	3.06	Small Grain, Silage	9.5 Tons	9/1-3/31	103	0	0	Broad.	103	44.72	0.00	136.84	0.00
3490	2	S7	Georgeville	9.91	9.81	Small Grain, Silage	10.1 Ton	9/1-3/31	109	0	0	Broad.	109	47.33	0.00	464.26	0.00
3490	20	S7	Badin	9.31	9.21	Fescue Pasture	3.2 Tons	8/1-7/31	104	0	0	Broad.	104	45.15	0.00	415.87	0.00
3490	21	S7	Badin	2.95	2.95	Fescue Pasture	3.2 Tons	8/1-7/31	104	0	0	Broad.	104	45.15	0.00	133.21	0.00
3490	3	S7	Georgeville	6.27	6.27	Small Grain, Silage	10.4 Ton	9/1-3/31	112	0	0	Broad.	112	48.63	0.00	304.90	0.00
3490	4	S7	Badin	7.90	7.90	Fescue Pasture	3.2 Tons	8/1-7/31	104	0	0	Broad.	104	45.15	0.00	356.72	0.00
3490	5	S7	Badin	8.60	8.60	Fescue Pasture	3.2 Tons	8/1-7/31	104	0	0	Broad.	104	45.15	0.00	388.33	0.00
3490	6	S7	Badin	3.58	3.58	Small Grain, Silage	8.0 Tons	9/1-3/31	86	0	0	Broad.	86	37.34	0.00	133.67	0.00
3490	7	S7	Badin	5.53	5.53	Small Grain, Silage	8.0 Tons	9/1-3/31	86	0	0	Broad.	86	37.34	0.00	206.49	0.00
3490	9	S7	Badin	1.10	1.10	Fescue Pasture	3.2 Tons	8/1-7/31	104	0	0	Broad.	104	45.15	0.00	49.67	0.00
9411	1	U1	Badin	23.81	23.81	Small Grain, Silage	9.5 Tons	9/1-3/31	103	0	0	Broad.	103	0.00	15.51	0.00	369.19
9492	4	U1	Badin	9.80	9.80	Small Grain, Silage	9.5 Tons	9/1-3/31	103	0	0	Broad.	103	0.00	15.51	0.00	151.96
9846	1	U1	State-CP	17.87	17.87	Small Grain, Silage	9.5 Tons	9/1-3/31	105	0	0	Broad.	105	0.00	15.81	0.00	282.47
9846	10	U1	Georgeville	5.57	5.57	Small Grain, Silage	10.4 Ton	9/1-3/31	112	0	0	Broad.	112	0.00	16.86	0.00	93.91
9846	11	U1	Georgeville	0.54	0.54	Small Grain, Silage	10.4 Ton	9/1-3/31	112	0	0	Broad.	112	0.00	16.86	0.00	9.10
9846	12	U1	Georgeville	4.00	4.00	Small Grain, Silage	10.4 Ton	9/1-3/31	112	0	0	Broad.	112	0.00	16.86	0.00	67.44
9846	2	U1	State-CP	8.45	8.45	Small Grain, Silage	10.4 Ton	9/1-3/31	112	0	0	Broad.	112	0.00	16.86	0.00	142.47
9846	3	U1	Georgeville	5.43	5.43	Small Grain, Silage	10.4 Ton	9/1-3/31	112	0	0	Broad.	112	0.00	16.86	0.00	91.55

Waste Utilization Table

Year 5

Tract	Field	Source ID	Soil Series	Total Acres	Use. Acres	Crop	RYE	Applic. Period	Nitrogen PA Nutrient Req'd (lbs/A)	Comm. Fert. Nutrient Applied (lbs/A)	Res. (lbs/A)	Applic. Method	Manure PA Nutrient Applied (lbs/A)	Liquid Manure Applied (acre)	Solid Manure Applied (acre)	Liquid Manure Applied (Field)	Solid Manure Applied (Field)
									N	N	N		N	1000 gal/A	Tons	1000 gals	tons
9846	6	U1	Georgeville	6.47	6.47	Small Grain, Silage	10.4 Ton	9/1-3/31	112	0	0	Broad.	112	0.00	16.86	0.00	109.09
9846	7	U1	Georgeville	2.77	2.77	Small Grain, Silage	10.4 Ton	9/1-3/31	112	0	0	Broad.	112	0.00	16.86	0.00	46.70
9846	8	U1	Georgeville	0.68	0.68	Small Grain, Silage	10.4 Ton	9/1-3/31	112	0	0	Broad.	112	0.00	16.86	0.00	11.47
Total Applied, 1000 gallons															4,633.89		
Total Produced, 1000 gallons															927.00		
Balance, 1000 gallons															-3,706.89		
Total Applied, tons																	6,509.42
Total Produced, tons																	636.40
Balance, tons																	-5,873.02

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

Waste Utilization Table

Year 6

Tract	Field	Source ID	Soil Series	Total Acres	Use. Acres	Crop	RYE	Applic. Period	Nitrogen PA Nutrient Req'd (lbs/A)	Comm. Fert. Nutrient Applied (lbs/A)	Res. (lbs/A)	Applic. Method	Manure PA Nutrient Applied (lbs/A)	Liquid Manure Applied (acre)	Solid Manure Applied (acre)	Liquid Manure Applied (Field)	Solid Manure Applied (Field)
									N	N	N		N	1000 gal/A	Tons	1000 gals	tons
3465	10	U1	Badin	16.00	16.00	Oats, Grain	86 bu.	9/1-4/15	95	0	0	Broad.	95	0.00	14.30	0.00	228.82
3465	11	U1	Badin	4.20	4.10	Fescue Hay	3.2 Tons	8/1-7/31	139	0	0	Broad.	139	0.00	20.93	0.00	85.79
3465	12	U1	Georgeville	8.87	8.77	Oats, Grain	97 bu.	9/1-4/15	107	0	0	Broad.	107	0.00	16.11	0.00	141.27
3465	14	U1	Georgeville	1.31	1.31	Oats, Grain	97 bu.	9/1-4/15	107	0	0	Broad.	107	0.00	16.11	0.00	21.10
3465	15	U1	Georgeville	16.37	16.27	Oats, Grain	97 bu.	9/1-4/15	107	0	0	Broad.	107	0.00	16.11	0.00	262.08
3465	16	U1	Georgeville	13.98	13.88	Oats, Grain	97 bu.	9/1-4/15	107	0	0	Broad.	107	0.00	16.11	0.00	223.58
3465	17	U1	Georgeville	7.76	7.66	Oats, Grain	82 bu.	9/1-4/15	90	0	0	Broad.	90	0.00	13.55	0.00	103.78
3465	18	U1	Georgeville	4.17	4.07	Oats, Grain	82 bu.	9/1-4/15	90	0	0	Broad.	90	0.00	13.55	0.00	55.14
3465	19	U1	Badin	9.80	9.80	Oats, Grain	89 bu.	9/1-4/15	98	0	0	Broad.	98	0.00	14.75	0.00	144.58
3465	2	U1	Georgeville	11.20	11.10	Oats, Grain	97 bu.	9/1-4/15	107	0	0	Broad.	107	0.00	16.11	0.00	178.80
3465	3	U1	Georgeville	5.12	5.00	Oats, Grain	66 bu.	9/1-4/15	73	0	0	Broad.	73	0.00	10.99	0.00	54.95
3465	4	U1	Badin	4.71	4.50	Oats, Grain	66 bu.	9/1-4/15	73	0	0	Broad.	73	0.00	10.99	0.00	49.45
3465	5	U1	Georgeville	10.66	10.50	Fescue Pasture	4.6 Tons	8/1-7/31	150	0	0	Broad.	150	0.00	22.58	0.00	237.10
3465	6	U1	Georgeville	31.11	31.00	Fescue Pasture	4.6 Tons	8/1-7/31	150	0	0	Broad.	150	0.00	22.58	0.00	700.02
3465	7	U1	Georgeville	108.13	108.00	Fescue Pasture	4.8 Tons	8/1-7/31	156	0	0	Broad.	156	0.00	23.48	0.00	2,536.33
3465	9	U1	Georgeville	2.62	2.52	Oats, Grain	97 bu.	9/1-4/15	107	0	0	Broad.	107	0.00	16.11	0.00	40.59
3490	1	S7	Georgeville	5.10	5.00	Oats, Grain	97 bu.	9/1-4/15	107	0	0	Broad.	107	46.46	0.00	232.28	0.00
3490	10	S7	Badin	6.78	6.68	Fescue Pasture	3.2 Tons	8/1-7/31	104	0	0	Broad.	104	45.15	0.00	301.63	0.00
3490	11	S7	Badin	7.99	7.79	Fescue Pasture	2.8 Tons	8/1-7/31	91	0	0	Broad.	91	39.51	0.00	307.78	0.00
3490	12	S7	Badin	4.86	4.76	Fescue Pasture	2.8 Tons	8/1-7/31	91	0	0	Broad.	91	39.51	0.00	188.07	0.00
3490	13	S7	Badin	2.30	2.30	Oats, Grain	75 bu.	9/1-4/15	82	0	0	Broad.	82	36.04	0.00	82.88	0.00
3490	14	S7	Badin	2.93	2.73	Oats, Grain	75 bu.	9/1-4/15	82	0	0	Broad.	82	36.04	0.00	98.38	0.00

Waste Utilization Table

Year 6

Tract	Field	Source ID	Soil Series	Total Acres	Use. Acres	Crop	RYE	Applic. Period	Nitrogen PA Nutrient Req'd (lbs/A)	Comm. Fert. Nutrient Applied (lbs/A)	Res. (lbs/A)	Applic. Method	Manure PA Nutrient Applied (lbs/A)	Liquid Manure Applied (acre)	Solid Manure Applied (acre)	Liquid Manure Applied (Field)	Solid Manure Applied (Field)
									N	N	N		N	1000 gal/A	Tons	1000 gals	tons
3490	15	S7	Badin	2.62	2.52	Oats, Grain	75 bu.	9/1-4/15	82	0	0	Broad.	82	36.04	0.00	90.81	0.00
3490	16	S7	Badin	0.94	0.94	Oats, Grain	86 bu.	9/1-4/15	95	0	0	Broad.	95	41.25	0.00	38.77	0.00
3490	17	S7	Georgeville	8.86	8.76	Oats, Grain	94 bu.	9/1-4/15	103	0	0	Broad.	103	44.72	0.00	391.75	0.00
3490	18	S7	Georgeville	5.63	5.63	Oats, Grain	94 bu.	9/1-4/15	103	0	0	Broad.	103	44.72	0.00	251.77	0.00
3490	19	S7	Badin	3.06	3.06	Oats, Grain	89 bu.	9/1-4/15	98	0	0	Broad.	98	42.55	0.00	130.20	0.00
3490	2	S7	Georgeville	9.91	9.81	Oats, Grain	94 bu.	9/1-4/15	103	0	0	Broad.	103	44.72	0.00	438.70	0.00
3490	20	S7	Badin	9.31	9.21	Fescue Pasture	3.2 Tons	8/1-7/31	104	0	0	Broad.	104	45.15	0.00	415.87	0.00
3490	21	S7	Badin	2.95	2.95	Fescue Pasture	3.2 Tons	8/1-7/31	104	0	0	Broad.	104	45.15	0.00	133.21	0.00
3490	3	S7	Georgeville	6.27	6.27	Oats, Grain	97 bu.	9/1-4/15	107	0	0	Broad.	107	46.46	0.00	291.28	0.00
3490	4	S7	Badin	7.90	7.90	Fescue Pasture	3.2 Tons	8/1-7/31	104	0	0	Broad.	104	45.15	0.00	356.72	0.00
3490	5	S7	Badin	8.60	8.60	Fescue Pasture	3.2 Tons	8/1-7/31	104	0	0	Broad.	104	45.15	0.00	388.33	0.00
3490	6	S7	Badin	3.58	3.58	Oats, Grain	75 bu.	9/1-4/15	82	0	0	Broad.	82	36.04	0.00	129.01	0.00
3490	7	S7	Badin	5.53	5.53	Oats, Grain	75 bu.	9/1-4/15	82	0	0	Broad.	82	36.04	0.00	199.28	0.00
3490	9	S7	Badin	1.10	1.10	Fescue Pasture	3.2 Tons	8/1-7/31	104	0	0	Broad.	104	45.15	0.00	49.67	0.00
9411	1	U1	Badin	23.81	23.81	Oats, Grain	89 bu.	9/1-4/15	98	0	0	Broad.	98	0.00	14.75	0.00	351.27
9492	4	U1	Badin	9.80	9.80	Oats, Grain	89 bu.	9/1-4/15	98	0	0	Broad.	98	0.00	14.75	0.00	144.58
9846	1	U1	State-CP	17.87	17.87	Oats, Grain	97 bu.	9/1-4/15	110	0	0	Broad.	110	0.00	16.56	0.00	295.92
9846	10	U1	Georgeville	5.57	5.57	Oats, Grain	97 bu.	9/1-4/15	107	0	0	Broad.	107	0.00	16.11	0.00	89.72
9846	11	U1	Georgeville	0.54	0.54	Oats, Grain	97 bu.	9/1-4/15	107	0	0	Broad.	107	0.00	16.11	0.00	8.70
9846	12	U1	Georgeville	4.00	4.00	Oats, Grain	97 bu.	9/1-4/15	107	0	0	Broad.	107	0.00	16.11	0.00	64.43
9846	2	U1	State-CP	8.45	8.45	Oats, Grain	97 bu.	9/1-4/15	107	0	0	Broad.	107	0.00	16.11	0.00	136.11
9846	3	U1	Georgeville	5.43	5.43	Oats, Grain	97 bu.	9/1-4/15	107	0	0	Broad.	107	0.00	16.11	0.00	87.47

Waste Utilization Table

Year 6

Tract	Field	Source ID	Soil Series	Total Acres	Use. Acres	Crop	RYE	Applic. Period	Nitrogen PA Nutrient Req'd (lbs/A)	Comm. Fert. Nutrient Applied (lbs/A)	Res. (lbs/A)	Applic. Method	Manure PA Nutrient Applied (lbs/A)	Liquid Manure Applied (acre)	Solid Manure Applied (acre)	Liquid Manure Applied (Field)	Solid Manure Applied (Field)
									N	N	N		N	1000 gal/A	Tons	1000 gals	tons
9846	6	U1	Georgeville	6.47	6.47	Oats, Grain	97 bu.	9/1-4/15	107	0	0	Broad.	107	0.00	16.11	0.00	104.22
9846	7	U1	Georgeville	2.77	2.77	Oats, Grain	97 bu.	9/1-4/15	107	0	0	Broad.	107	0.00	16.11	0.00	44.62
9846	8	U1	Georgeville	0.68	0.68	Oats, Grain	97 bu.	9/1-4/15	107	0	0	Broad.	107	0.00	16.11	0.00	10.95
Total Applied, 1000 gallons															4,516.40		
Total Produced, 1000 gallons																927.00	
Balance, 1000 gallons																-3,589.40	
Total Applied, tons																	6,401.37
Total Produced, tons																	636.40
Balance, tons																	-5,764.97

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

The Nutrient Management Recommendations table shown below provides an annual summary of the nutrient management plan developed for this operation. This table provides a nutrient balance for the listed fields and crops for each year of the plan. Required nutrients are based on the realistic yields of the crops to be grown, their nutrient requirements and soil test results. The quantity of nutrient supplied by each source is also identified.

The total quantity of nitrogen applied to each crop should not exceed the required amount. However, the quantity of other nutrients applied may exceed their required amounts. This most commonly occurs when manure or other byproducts are utilized to meet the nitrogen needs of the crop. Nutrient management plans may require that the application of animal waste be limited so as to prevent over application of phosphorous when excessive levels of this nutrient are detected in a field. In such situations, additional nitrogen applications from nonorganic sources may be required to supply the recommended amounts of nitrogen.

Nutrient Management Recommendations Test

YEAR		1			N (lbs/A)	P2O5 (lbs/A)	K2O (lbs/A)	Mg (lbs/A)	Mn (lbs/A)	Zn (lbs/A)	Cu (lbs/A)	Lime (tons/A)
Tract	Field	3465	19	Req'd Nutrients	166	0	0	0	0	0	0	0
Acres	App. Period	9.80	4/1-9/15	Supplied By:								
CROP		Soybeans, Manured, Full Season		Starter	0	0	0	0	0	0	0	0
				Commercial Fert.	0	0	0	0	0	0	0	0
Soil Series		Badin		Residual	0	0	0	0	0	0	0	0
RYE	Sample Date	43 bu.	04-15-10	Manure	166	174	344	114	4	3	1	0
P Removal	Rating	34 lbs/ac.	Medium	BALANCE	0	174	344	114	4	3	1	0
Tract	Field	9846	1	Req'd Nutrients	167	0	20	0	0	0	0	1
Acres	App. Period	17.87	4/1-9/15	Supplied By:								
CROP		Soybeans, Manured, Full Season		Starter	0	0	0	0	0	0	0	0
				Commercial Fert.	0	0	0	0	0	0	0	0
Soil Series		State-CP		Residual	0	0	0	0	0	0	0	0
RYE	Sample Date	43 bu.	08-21-09	Manure	167	175	346	115	4	3	1	0
P Removal	Rating	34 lbs/ac.	Low	BALANCE	0	175	326	115	4	3	1	-1
Tract	Field	9846	7	Req'd Nutrients	186	0	20	0	0	0	0	1
Acres	App. Period	2.77	4/1-9/15	Supplied By:								
CROP		Soybeans, Manured, Full Season		Starter	0	0	0	0	0	0	0	0
				Commercial Fert.	0	0	0	0	0	0	0	0
Soil Series		Georgeville		Residual	0	0	0	0	0	0	0	0
RYE	Sample Date	48 bu.	08-21-09	Manure	186	195	386	128	4	3	1	0
P Removal	Rating	38 lbs/ac.	Medium	BALANCE	0	195	366	128	4	3	1	-1

NOTE: Symbol * means user entered data.

Nutrient Management Recommendations Test

YEAR		2			N (lbs/A)	P2O5 (lbs/A)	K2O (lbs/A)	Mg (lbs/A)	Mn (lbs/A)	Zn (lbs/A)	Cu (lbs/A)	Lime (tons/A)
Tract	Field	3465	19	Req'd Nutrients	123	0	0	0	0	0	0	0
Acres	App. Period	9.80	2/15-6/30	Supplied By:								
CROP		Corn, Grain		Starter	0	0	0	0	0	0	0	0
				Commercial Fert.	0	0	0	0	0	0	0	0
Soil Series		Badin		Residual	20	0	0	0	0	0	0	0
RYE	Sample Date	114 bu.	04-15-10	Manure	103	108	214	71	2	2	0	0
P Removal	Rating	50 lbs/ac.	Medium	BALANCE	0	108	214	71	2	2	0	0
Tract	Field	9846	1	Req'd Nutrients	132	0	20	0	0	0	0	0
Acres	App. Period	17.87	2/15-6/30	Supplied By:								
CROP		Corn, Grain		Starter	0	0	0	0	0	0	0	0
				Commercial Fert.	0	0	0	0	0	0	0	0
Soil Series		State-CP		Residual	20	0	0	0	0	0	0	0
RYE	Sample Date	119 bu.	08-21-09	Manure	112	118	232	77	3	2	1	0
P Removal	Rating	52 lbs/ac.	Low	BALANCE	0	118	212	77	3	2	1	0
Tract	Field	9846	7	Req'd Nutrients	129	0	20	0	0	0	0	0
Acres	App. Period	2.77	2/15-6/30	Supplied By:								
CROP		Corn, Grain		Starter	0	0	0	0	0	0	0	0
				Commercial Fert.	0	0	0	0	0	0	0	0
Soil Series		Georgeville		Residual	20	0	0	0	0	0	0	0
RYE	Sample Date	119 bu.	08-21-09	Manure	109	114	226	75	2	2	1	0
P Removal	Rating	52 lbs/ac.	Medium	BALANCE	0	114	206	75	2	2	1	0

NOTE: Symbol * means user entered data.

Nutrient Management Recommendations Test

YEAR		3			N (lbs/A)	P2O5 (lbs/A)	K2O (lbs/A)	Mg (lbs/A)	Mn (lbs/A)	Zn (lbs/A)	Cu (lbs/A)	Lime (tons/A)
Tract	Field	3465	19	Req'd Nutrients	224	0	0	0	0	0	0	0
Acres	App. Period	9.80	2/15-6/30	Supplied By:								
CROP		Corn, Silage		Starter	0	0	0	0	0	0	0	0
				Commercial Fert.	0	0	0	0	0	0	0	0
Soil Series		Badin		Residual	0	0	0	0	0	0	0	0
RYE	Sample Date	20.9 Tons	04-15-10	Manure	224	235	465	154	5	4	1	0
P Removal	Rating	71 lbs/ac.	Medium	BALANCE	0	235	465	154	5	4	1	0
Tract	Field	9846	1	Req'd Nutrients	*234	20	60	0	0	0	0	0
Acres	App. Period	17.87	2/15-6/30	Supplied By:								
CROP		Corn, Silage		Starter	0	0	0	0	0	0	0	0
				Commercial Fert.	0	0	0	0	0	0	0	0
Soil Series		State-CP		Residual	0	0	0	0	0	0	0	0
RYE	Sample Date	0.0 Tons	08-21-09	Manure	234	246	486	161	5	4	1	0
P Removal	Rating	0 lbs/ac.	Low	BALANCE	0	226	426	161	5	4	1	0
Tract	Field	9846	7	Req'd Nutrients	234	20	60	0	0	0	0	0
Acres	App. Period	2.77	2/15-6/30	Supplied By:								
CROP		Corn, Silage		Starter	0	0	0	0	0	0	0	0
				Commercial Fert.	0	0	0	0	0	0	0	0
Soil Series		Georgeville		Residual	0	0	0	0	0	0	0	0
RYE	Sample Date	21.9 Tons	08-21-09	Manure	234	246	486	161	5	4	1	0
P Removal	Rating	74 lbs/ac.	Medium	BALANCE	0	226	426	161	5	4	1	0

NOTE: Symbol * means user entered data.

Nutrient Management Recommendations Test

YEAR		4			N (lbs/A)	P2O5 (lbs/A)	K2O (lbs/A)	Mg (lbs/A)	Mn (lbs/A)	Zn (lbs/A)	Cu (lbs/A)	Lime (tons/A)
Tract	Field	3465	19	Req'd Nutrients	100	0	0	0	0	0	0	0
Acres	App. Period	9.80	9/1-4/30	Supplied By:								
CROP		Wheat, Grain		Starter	0	0	0	0	0	0	0	0
				Commercial Fert.	0	0	0	0	0	0	0	0
Soil Series		Badin		Residual	0	0	0	0	0	0	0	0
RYE	Sample Date	52 bu.	04-15-10	Manure	100	105	207	69	2	2	0	0
P Removal	Rating	26 lbs/ac.	Medium	BALANCE	0	105	207	69	2	2	0	0
Tract	Field	9846	1	Req'd Nutrients	115	0	20	0	0	0	0	0
Acres	App. Period	17.87	9/1-4/30	Supplied By:								
CROP		Wheat, Grain		Starter	0	0	0	0	0	0	0	0
				Commercial Fert.	0	0	0	0	0	0	0	0
Soil Series		State-CP		Residual	0	0	0	0	0	0	0	0
RYE	Sample Date	57 bu.	08-21-09	Manure	115	121	239	79	3	2	1	0
P Removal	Rating	29 lbs/ac.	Low	BALANCE	0	121	219	79	3	2	1	0
Tract	Field	9846	7	Req'd Nutrients	110	0	20	0	0	0	0	0
Acres	App. Period	2.77	9/1-4/30	Supplied By:								
CROP		Wheat, Grain		Starter	0	0	0	0	0	0	0	0
				Commercial Fert.	0	0	0	0	0	0	0	0
Soil Series		Georgeville		Residual	0	0	0	0	0	0	0	0
RYE	Sample Date	57 bu.	08-21-09	Manure	110	115	228	76	2	2	1	0
P Removal	Rating	29 lbs/ac.	Medium	BALANCE	0	115	208	76	2	2	1	0

NOTE: Symbol * means user entered data.

Nutrient Management Recommendations Test

YEAR		5			N (lbs/A)	P2O5 (lbs/A)	K2O (lbs/A)	Mg (lbs/A)	Mn (lbs/A)	Zn (lbs/A)	Cu (lbs/A)	Lime (tons/A)
Tract	Field	3465	19	Req'd Nutrients	103	0	0	0	0	0	0	0
Acres	App. Period	9.80	9/1-3/31	Supplied By:								
CROP		Small Grain, Silage		Starter	0	0	0	0	0	0	0	0
				Commercial Fert.	0	0	0	0	0	0	0	0
Soil Series		Badin		Residual	0	0	0	0	0	0	0	0
RYE	Sample Date	9.5 Tons	04-15-10	Manure	103	108	214	71	2	2	0	0
P Removal	Rating	51 lbs/ac.	Medium	BALANCE	0	108	214	71	2	2	0	0
Tract	Field	9846	1	Req'd Nutrients	105	0	20	0	0	0	0	0
Acres	App. Period	17.87	9/1-3/31	Supplied By:								
CROP		Small Grain, Silage		Starter	0	0	0	0	0	0	0	0
				Commercial Fert.	0	0	0	0	0	0	0	0
Soil Series		State-CP		Residual	0	0	0	0	0	0	0	0
RYE	Sample Date	9.5 Tons	08-21-09	Manure	105	110	218	72	2	2	0	0
P Removal	Rating	51 lbs/ac.	Low	BALANCE	0	110	198	72	2	2	0	0
Tract	Field	9846	7	Req'd Nutrients	112	0	20	0	0	0	0	0
Acres	App. Period	2.77	9/1-3/31	Supplied By:								
CROP		Small Grain, Silage		Starter	0	0	0	0	0	0	0	0
				Commercial Fert.	0	0	0	0	0	0	0	0
Soil Series		Georgeville		Residual	0	0	0	0	0	0	0	0
RYE	Sample Date	10.4 Tons	08-21-09	Manure	112	118	232	77	3	2	1	0
P Removal	Rating	56 lbs/ac.	Medium	BALANCE	0	118	212	77	3	2	1	0

NOTE: Symbol * means user entered data.

Nutrient Management Recommendations Test

YEAR		6			N (lbs/A)	P2O5 (lbs/A)	K2O (lbs/A)	Mg (lbs/A)	Mn (lbs/A)	Zn (lbs/A)	Cu (lbs/A)	Lime (tons/A)
Tract	Field	3465	19	Req'd Nutrients	98	0	0	0	0	0	0	0
Acres	App. Period	9.80	9/1-4/15	Supplied By:								
CROP		Oats, Grain		Starter	0	0	0	0	0	0	0	0
				Commercial Fert.	0	0	0	0	0	0	0	0
Soil Series		Badin		Residual	0	0	0	0	0	0	0	0
RYE	Sample Date	89 bu.	04-15-10	Manure	98	103	203	67	2	2	0	0
P Removal	Rating	22 lbs/ac.	Medium	BALANCE	0	103	203	67	2	2	0	0
Tract	Field	9846	1	Req'd Nutrients	110	0	20	0	0	0	0	0
Acres	App. Period	17.87	9/1-4/15	Supplied By:								
CROP		Oats, Grain		Starter	0	0	0	0	0	0	0	0
				Commercial Fert.	0	0	0	0	0	0	0	0
Soil Series		State-CP		Residual	0	0	0	0	0	0	0	0
RYE	Sample Date	97 bu.	08-21-09	Manure	110	115	228	76	2	2	1	0
P Removal	Rating	24 lbs/ac.	Low	BALANCE	0	115	208	76	2	2	1	0
Tract	Field	9846	7	Req'd Nutrients	107	0	20	0	0	0	0	0
Acres	App. Period	2.77	9/1-4/15	Supplied By:								
CROP		Oats, Grain		Starter	0	0	0	0	0	0	0	0
				Commercial Fert.	0	0	0	0	0	0	0	0
Soil Series		Georgeville		Residual	0	0	0	0	0	0	0	0
RYE	Sample Date	97 bu.	08-21-09	Manure	107	112	222	74	2	2	1	0
P Removal	Rating	24 lbs/ac.	Medium	BALANCE	0	112	202	74	2	2	1	0

NOTE: Symbol * means user entered data.

The Required Soil Test Values shown in the following table provide a summary of recommended actions that should be taken if soil tests indicate excessive levels of copper or zinc. Fields that receive manure must have an annual soil analysis for these elements. High levels of zinc and copper can adversely affect plant growth. Alternative crop sites must be used when the concentration of these metals approach excessive levels. Site life can be estimated by dividing the amount of copper and zinc to be applied in lbs/acre by 0.036 and 0.071, respectively and multiplying the result by 0.85. By adding this quantity to the current soil index for copper or zinc, we can predict life of the site for waste disposal.

In addition to copper and zinc indices, this table also provides a summary of lime recommendations for each crop based on the most recent soil sample. Application of lime at recommended rates is necessary to maintain soil pH in the optimum range for crop production .

Required Soil Test Values

Tract	Field	Crop	pH	Lime Recom. (tons/acre)	Cu-I	Copper Recommendation	Zn-I	Zinc Recommendation
3465	19	Soybeans, Manured, Full Season	6.1	0.0	236	None	322	None
3465	19	Corn, Grain	6.1	0.0	236	None	322	None
3465	19	Corn, Silage	6.1	0.0	236	None	322	None
3465	19	Wheat, Grain	6.1	0.0	236	None	322	None
3465	19	Small Grain, Silage	6.1	0.0	236	None	322	None
3465	19	Oats, Grain	6.1	0.0	236	None	322	None
9846	1	Soybeans, Manured, Full Season	4.6	1.4	106	None	493	None
9846	1	Corn, Grain	4.6	0.0	106	None	493	None
9846	1	Corn, Silage	4.6	0.0	106	None	493	None
9846	1	Wheat, Grain	4.6	0.0	106	None	493	None
9846	1	Small Grain, Silage	4.6	0.0	106	None	493	None
9846	1	Oats, Grain	4.6	0.0	106	None	493	None
9846	7	Soybeans, Manured, Full Season	4.6	1.4	106	None	486	None
9846	7	Corn, Grain	4.6	0.0	106	None	486	None
9846	7	Corn, Silage	4.6	0.0	106	None	486	None
9846	7	Wheat, Grain	4.6	0.0	106	None	486	None
9846	7	Small Grain, Silage	4.6	0.0	106	None	486	None
9846	7	Oats, Grain	4.6	0.0	106	None	486	None

The following Lagoon Sludge Nitrogen Utilization table provides an estimate of the number of acres needed for sludge utilization for the indicated accumulation period. These estimates are based on average nitrogen concentrations for each source, the number of animals in the facility and the plant available nitrogen application rates shown in the second column.

Lagoon sludge contains nutrients and organic matter remaining after treatment and application of the effluent. At clean out, this material must be utilized for crop production and applied at agronomic rates. In most cases, the priority nutrient is nitrogen but other nutrients including phosphorous, copper and zinc can also be limiting. Since nutrient levels are generally very high, application of sludge must be carefully applied.

Sites must first be evaluated for their suitability for sludge application. Ideally, effluent spray fields should not be used for sludge application. If this is not possible, care should be taken not to load effluent application fields with high amounts of copper and zinc so that additional effluent cannot be applied. On sites vulnerable to surface water moving to streams and lakes, phosphorous is a concern. Soils containing very high phosphorous levels may also be a concern.

Lagoon Sludge Nitrogen Utilization Table

Crop	Maximum PA-N Rate lb/ac	Maximum Sludge Application Rate 1000 gal/ac	Minimum Acres 5 Years Accumulation	Minimum Acres 10 Years Accumulation	Minimum Acres 15 Years Accumulation
Swine Feeder-Finish Lagoon Sludge - Standard					
Corn 120 bu	150	13.16	12.54	25.07	37.61
Hay 6 ton R.Y.E.	300	26.32	6.27	12.54	18.80
Soybean 40 bu	160	14.04	11.75	23.51	35.26

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 Feeder-Finish Lagoon Liquid		Design Storage Capacity (Days)
Start Date	9/1		60
Plan Year		Month	Available Storage Capacity (Days) *
	1	1	29
	1	2	1
	1	3	60
	1	4	60
	1	5	60
	1	6	60
	1	7	29
	1	8	-2
	1	9	60
	1	10	60
	1	11	30
	1	12	-1
	2	1	-32
	2	2	60
	2	3	60
	2	4	60
	2	5	60
	2	6	30
	2	7	-1
	2	8	-32
	2	9	60
	2	10	60
	2	11	30
	2	12	-1
	3	1	-32
	3	2	-60
	3	3	60

Available Waste Storage Capacity

Source Name	Swine Feeder-Finish Lagoon Liquid		Design Storage Capacity (Days)
Start Date	9/1		60
Plan Year		Month	Available Storage Capacity (Days) *
	3	4	60
	3	5	60
	3	6	60
	3	7	29
	3	8	-2
	3	9	60
	3	10	60
	3	11	30
	3	12	-1
	4	1	-32
	4	2	-60
	4	3	60
	4	4	60
	4	5	29
	4	6	-1
	4	7	-32
	4	8	-63
	4	9	60
	4	10	60
	4	11	60
	4	12	60
	5	1	29
	5	2	1
	5	3	60
	5	4	60
	5	5	29
	5	6	-1
	5	7	-32
	5	8	-63
	5	9	60
	5	10	60
	5	11	60
	5	12	60
	6	1	29
	6	2	1
	6	3	60
	6	4	60

Available Waste Storage Capacity

Source Name	Swine Feeder-Finish Lagoon Liquid		Design Storage Capacity (Days)
Start Date	9/1		60
Plan Year		Month	Available Storage Capacity (Days) *
	6	5	29
	6	6	-1
	6	7	-32
	6	8	-63
	6	9	60
	6	10	60
	6	11	60
	6	12	60

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

Narrative

Updated 11/4/03

Acres derived from GIS where tracts have been digitized in to reflect land clearing activities not shown on FSA maps.

This waste utilization plan has been developed to be inclusive of both the Beef and Swine that are raised on this farm.

Part of this facility is used to confine Beef stockers for a portion of each year. Animals on the site are usually held for a period of approximately 90 days. Animals are brought on in stages from the late fall and winter. Animals confined here include and this WUP is developed for the following: 285 Stockers (Average wt. 600 lbs - confined 24 hrs/day); 55 Stockers (Average wt. 625 lbs - confined 24 hrs/day); and 90 brood cows (Average wt. 1200 lbs - confined 4 hrs/day). These times of confinement are only during the periods of late fall and winter. The total waste production is calculated to be approximately 207 cubic feet/day ($207 \text{ cu ft/day} \times 60 \text{ lbs/cu ft} = 12,420 \text{ lbs/day}$; $12,420 \text{ lbs/day} / 2000 = 6.21 \text{ tons/day}$). $6.21 \text{ tons/day} \times 94.4 \text{ days} = 587 \text{ tons}$ of waste to be properly applied to actively growing crops. Since application of the waste from these animals is not applied to the land separately, this WUP has been developed by factoring in all waste and creating one nutrient content for land application. These amounts have been derived by averaging standard values as well as actual waste analysis.

The other part of this facility is used for confinement of swine, feeder-to-finish. This facility has the physical space to house up to 1000 feeder-to finish swine. These two "pitted" houses are not always filled to capacity. The storage capacity for waste in these pits is as follows: House #1: $160' \times 5' \times 7.5' = 6000 \text{ cu ft}$; (House #2: $177' \times 3' \times 9.5' \times 2 = 10,089 \text{ cu ft}$). {Total volume; $6000 + 10,089 = 16,089 \text{ cu ft}$ }. No rain water or runoff enters the holding pits. Waste generated by these 1000 feeder-to-finish swine totals ($2.3 \text{ gals/animal/day} \times 1000 \text{ animals}$) = 2300 gals/day.

$2300 \text{ gals/day} / 7.48 \text{ gals/cu ft} = 307.5 \text{ cu ft}$ required per day for the 1000 feeder-to-finish swine.

$16,089 \text{ cu ft of volume available} / 307.5 \text{ cu ft/day} = 52.3 \text{ days}$ of storage capacity. These calculations take into account the higher volumes for excess water. This volume of waste generated will be less during the cooler months when less water is used. Mortality is not factored in. An average of 20 animals are lost each year.

This WUP has sufficient land for the application of waste using the 52 day storage period. Proper management of the facility will be needed to insure that conditions are monitored and that waste is hauled in a manner that is in keeping with this plan.

WUP includes tract 9846 located in Montgomery Co., soils and photos provided by Montgomery SWCD.

Updated 8/28/2009 by RDB

Amended 9/7/2010 by RDB:

Added field 19 tract 3465 - was omitted in previous plan.

Total plan revision including PLAT assessment and inclusion into plan. All maps updated using FSA

Narrative

compliance photos (2008) for Randolph and Montgomery counties. Soils data updated as well.

Revised: 4/15/04 BBR

Corrected Tract # to Tract# . Also corrected field use

Amended: 5/2/2012 RDB

This applies to all fescue pasture fields: When hay is cut on these fields, up to 25% more N can be applied than what is specified in the plan for fescue pasture alone.

EMERGENCY ACTION PLAN

PHONE NUMBERS

DWQ 336-771-6000
EMERGENCY MANAGEMENT SYSTEM 911
SWCD 336-318-6490
NRCS 336-629-4449 ext. 3

This plan will be implemented in the event that wastes from your operation are leaking, overflowing, or running off site. You should not wait until wastes reach surface waters or leave your property to consider that you have a problem. You should make every effort to ensure that this does not happen. This plan should be posted in an accessible location for all employees at the facility. The following are some action items you should take.

1. Stop the release of wastes. Depending on the situation, this may or may not be possible. Suggested responses to some possible problems are listed below.

A. Lagoon overflow-possible solutions are:

- a. Add soil to berm to increase elevation of dam.
- b. Pump wastes to fields at an acceptable rate.
- c. Stop all flows to the lagoon immediately.
- d. Call a pumping contractor.
- e. Make sure no surface water is entering lagoon.

B. Runoff from waste application field-actions include:

- a. Immediately stop waste application.
- b. Create a temporary diversion to contain waste.
- c. Incorporate waste to reduce runoff.
- d. Evaluate and eliminate the reason(s) that caused the runoff.
- e. Evaluate the application rates for the fields where runoff occurred.

C. Leakage from the waste pipes and sprinklers-action include:

- a. Stop recycle pump.
- b. Stop irrigation pump.
- c. Close valves to eliminate further discharge.
- d. Repair all leaks prior to restarting pumps.

D. Leakage from flush systems, houses, solid separators-action include:

- a. Stop recycle pump.
- b. Stop irrigation pump.
- c. Make sure no siphon occurs.
- d. Stop all flows in the house, flush systems, or solid separators.
- e. Repair all leaks prior to restarting pumps.

E. Leakage from base or sidewall of lagoon. Often this is seepage as opposed to

- a. Dig a small sump or ditch away from the embankment to catch all seepage, put in a submersible pump, and pump back to the lagoon.
- b. If holes are caused by burrowing animals, trap or remove animals and fill holes and compact with a clay type soil.
- c. Have a professional evaluate the condition of the side walls and lagoon bottom as soon as possible.

2. Assess the extent of the spill and note any obvious damages.

- a. Did the waste reach any surface waters?
- b. Approximately how much was released and for what duration?
- c. Any damage noted, such as employee injury, fish kills, or property damage?
- d. Did the spill leave the property?
- e. Does the spill have the potential to reach surface waters?
- f. Could a future rain event cause the spill to reach surface waters?
- g. Are potable water wells in danger (either on or off of the property)?
- h. How much reached surface waters?

3. Contact appropriate agencies.

- a. During normal business hours, call your DWQ (Division of Water Quality) regional office; Phone ~~36~~ -771-6000. After hours, emergency number: 919-733-3942. Your phone call should include: your name, facility, telephone number, the details of the incident from item 2 above, the exact location of the facility, the location or direction of movement of the spill, weather and wind conditions. The corrective measures that have been under taken, and the seriousness of the situation.
- b. If spill leaves property or enters surface waters, call local EMS phone number 9 - / - /
- c. Instruct EMS to contact local Health Department.
- d. Contact CES, phone number ¹⁰⁴ ~~36~~ -451-2400, local SWCD office phone number ~~36~~ -362-6490, and local NRCS office for advice/technical assistance phone number ~~36~~ -629-4449 EXT 3

4. If none of the above works call 911 or the Sheriff's Department and explain your problem to them and ask that person to contact the proper agencies for you.

5. Contact the contractor of your choice to begin repair of problem to minimize off-site

damage.

- a. Contractors Name: MAX PARET
- b. Contractors Address: _____
- c. Contractors Phone: 336 - 629 - 9514

6. Contact the technical specialist who certified the lagoon (NRCS, Consulting Engineer, etc.

- a. Name: JILL MASON
- b. Phone: 8704 637 - 2400

7. Implement procedures as advised by DWQ and technical assistance agencies to rectify the damage, repair the system, and reassess the waste management plan to keep problems with release of wastes from happening again.

Dairy Farm Waste Management Odor Control Checklist

Source	Cause	BMPs to Minimize Odor	Site Specific Practices
Farmstead	● Dairy Production	☒ Vegetative or wooded buffers; ☒ Recommended best management practices; ☒ Good judgement and common sense	
Paved lots or barn alley surfaces	● Wet manure-covered surfaces	☒ Scrape or flush daily; ☒ Promote drying with proper ventilation; ☒ Routine checks and maintenance on waterers, hydrants, pipes, stock tanks	
Bedded areas	● Urine; ● Partial microbial decomposition	☒ Promote drying with proper ventilation; ☒ Replace wet or manure-covered bedding	
Manure dry stacks	● Partial microbial decomposition	☒ Provide liquid drainage for stored manure	
Storage tank or basin surface	● Partial microbial decomposition; ● Mixing while filling; ● Agitation while emptying	☐ Bottom or mid-level loading; ☐ Tank covers; ☐ Basin surface mats of solids; ☐ Minimize lot runoff and liquid additions; ☐ Agitate only prior to manure removal; ☐ Proven biological additives or oxidants	
Settling basin surfaces	● Partial microbial decomposition; ● Mixing while filling; ● Agitation while emptying	☒ Liquid drainage from settled solids; ☒ Remove solids regularly	
Manure, slurry, or sludge spreader outlets	● Agitation when spreading; ● Volatile gas emissions	☐ Soil injection of slurry/sludges; ☒ Wash residual manure from spreader after use; ☐ Proven biological additives or oxidants	
Uncovered manure, slurry or sludge on field surfaces	● Volatile gas emissions while drying	☐ Soil injection of slurry/sludges; ☐ Soil incorporation within 48 hrs; ☒ Spread in thin uniform layers for rapid drying; ☐ Proven biological additives or oxidants	
Flush tanks	● Agitation of recycled lagoon liquid while tanks are filling	☐ Flush tank covers; ☐ Extend fill lines to near bottom of tanks with anti-siphon vents	
Outside drain collection or junction boxes	● Agitation during wastewater conveyance	☐ Box covers	

Source	Cause	BMPs to Minimize Odor	Site Specific Practices
Lift stations	● Agitation during sump tank filling and drawdown	☐ Sump tank covers	
End of drainpipes at lagoon	● Agitation during wastewater conveyance	☐ Extend discharge point of pipes underneath lagoon liquid level	
Lagoon surfaces	● Volatile gas emission; ● Biological mixing; ● Agitation	☐ Proper lagoon liquid capacity; ☐ Correct lagoon startup procedures; ☒ Minimum surface area-to-volume ratio; ☐ Minimum agitation when pumping; ☐ Mechanical aeration; ☐ Proven biological additives	
Irrigation sprinkler nozzles	● High pressure agitation; ● Wind drift	☐ Irrigate on dry days with little or no wind; ☐ Minimum recommended operating pressure; ☐ Pump intake near lagoon liquid surface; ☐ Pump from second stage lagoon; ☐ Flush residual manure from pipes at end of slurry/sludge pumpings	
Dead animals	● Carcass decomposition	☒ Proper disposition of carcasses	
Standing water around facilities	● Improper drainage; ● Microbial decomposition of organic matter	☒ Grade and landscape such that water drains away from facilities	
Mud tracked onto public roads from farm access	● Poorly maintained access roads	☒ Farm access road maintenance	

Additional Information:	Available From:
Cattle Manure Management; .0200 Rule/BMP Packet	NCSU, County Extension Center
Dairy Educational Unit Manure Management System - Lake Wheeler Road Filed Labatory ; EBAE 209-95	NCSU - BAE
Lagoon Design and Management for Livestock Manure Treatment and Storage; EBAE 103-83	NCSU - BAE
Management of Dairy Wastewater; EBAE 106-83	NCSU - BAE
Calibration of Manure and Wastewater Application Equipment; EBAE Fact Sheet	NCSU - BAE
Nuisance Concerns in Animal Manure Management: Odors and Flies; PRO107, 1995 Conference Proceedings	Florida Cooperative Extension

Insect Control Checklist for Animal Operations

Source	Cause	BMPs to Minimize Insects	Site Specific Practices
Liquid Systems			
Flush Gutters	● Accumulation of Solids	☐ Flush system is designed and operated sufficiently to remove accumulated solids from gutters as designed; ☒ Remove bridging of accumulated solids at discharge	
Lagoons and Pits	● Crusted Solids	☐ Maintain lagoons, settling basins and pits where pest breeding is apparent to minimize the crusting of solids to a depth of no more than 6 - 8 inches over more than 30% of surface.	
Excessive Vegetative Growth	● Decaying vegetation	☒ Maintain vegetative control along banks of lagoons and other impoundments to prevent accumulation of decaying vegetative matter along water's edge on impoundment's perimeter.	
Dry Systems			
Feeders	● Feed Spillage	☒ Design, operate and maintain feed systems (e.g., bunkers and troughs) to minimize the accumulation of decaying wastage. ☒ Clean up spillage on a routine basis (e.g., 7 - 10 day interval during summer; 15-30 day interval during winter).	
Feed Storage	● Accumulation of feed residues	☒ Reduce moisture accumulation within and around immediate perimeter of feed storage areas by insuring drainage away from site and/or providing adequate containment (e.g., covered bin for brewer's grain and similar high moisture grain products). ☒ Inspect for and remove or break up accumulated solids in filter strips around feed storage as needed.	
Animal Holding Areas	● Accumulations of animal wastes and feed wastage	☒ Eliminate low areas that trap moisture along fences and other locations where waste accumulates and disturbance by animals is minimal. ☒ Maintain fence rows and filter strips around animal holding areas to minimize accumulations of wastes (i.e. inspect for and remove or break up accumulated solids as needed.	

Source	Cause	BMPs to Minimize Insects	Site Specific Practices
Dry Manure Handling Systems	● Accumulations of animal wastes	☒ Remove spillage on a routine basis (e.g., 7-10 day interval during summer; 15-30 day interval during winter) where manure is loaded for land application or disposal. ☒ Provide for adequate drainage around manure stockpiles. ☒ Inspect for and remove or break up accumulated wastes in filter strips around stockpiles and manure handling areas as needed.	

For more information contact the Cooperative Extension Service, Department of Entomology, Box 7613, North Carolina State University, Raleigh, NC 27695-7613

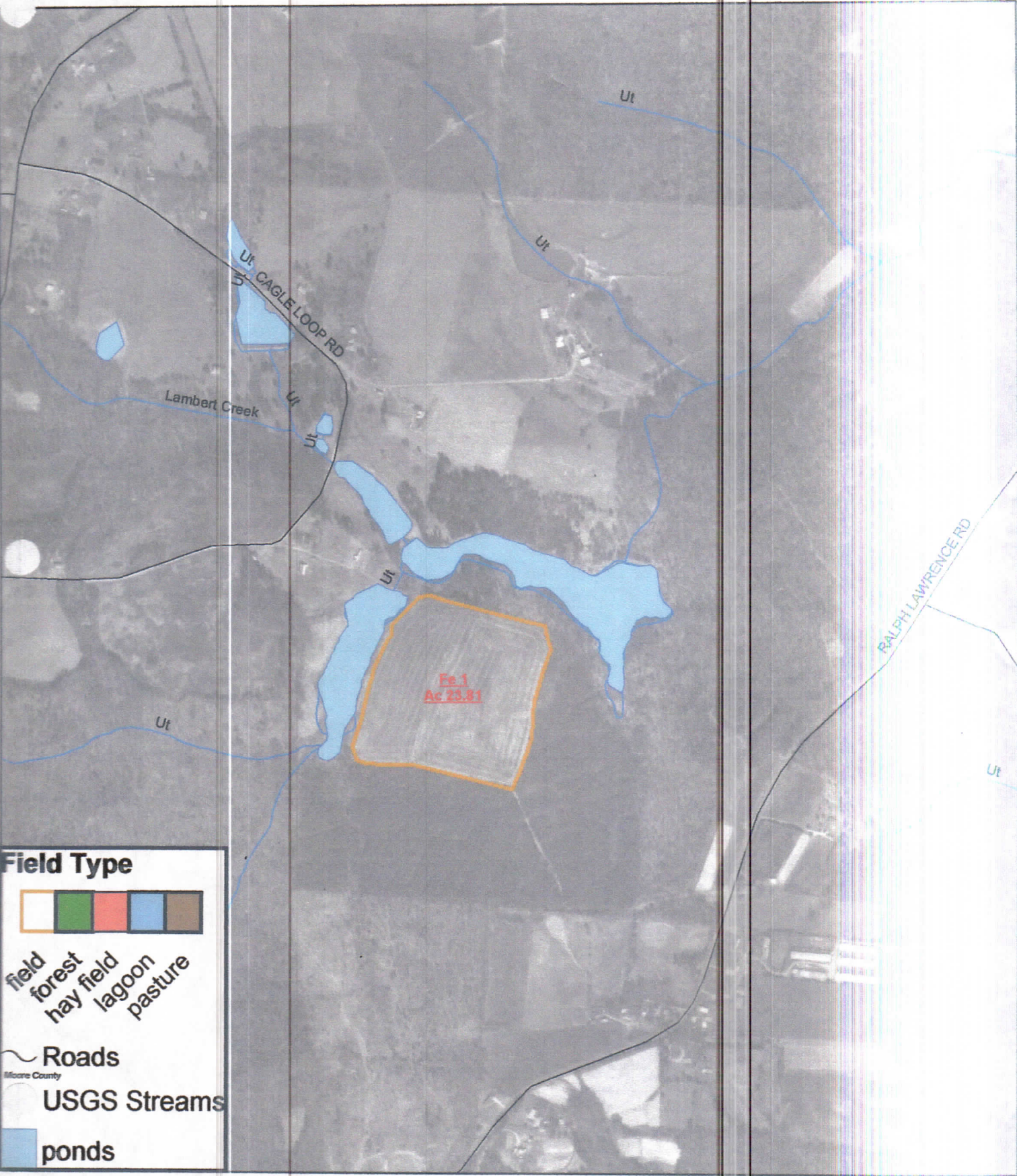
Mortality Management Methods
(check which method(s) are being implemented)

- ☒ Burial three feet beneath the surface of the ground within 24 hours after knowledge of the death. The burial must be at least 300 feet from any flowing stream or public body of water.
- ☒ Rendering at a rendering plant licensed under G.S. 106-168.7.
- ☐ Complete incineration
- ☐ In the case of dead poultry only, placing in a disposal pit of a size and design approved by the Department of Agriculture.
- ☐ Any method which in the professional opinion of the State Veterinarian would make possible the salvage of part of a dead animal's value without endangering human or animal health. (Written approval of the State Veterinarian must be attached)

December 18, 1996

Farm: Thomas Lawrence
Tract - 9414

Moore County



Field Type

field	forest	hay field	lagoon	pasture

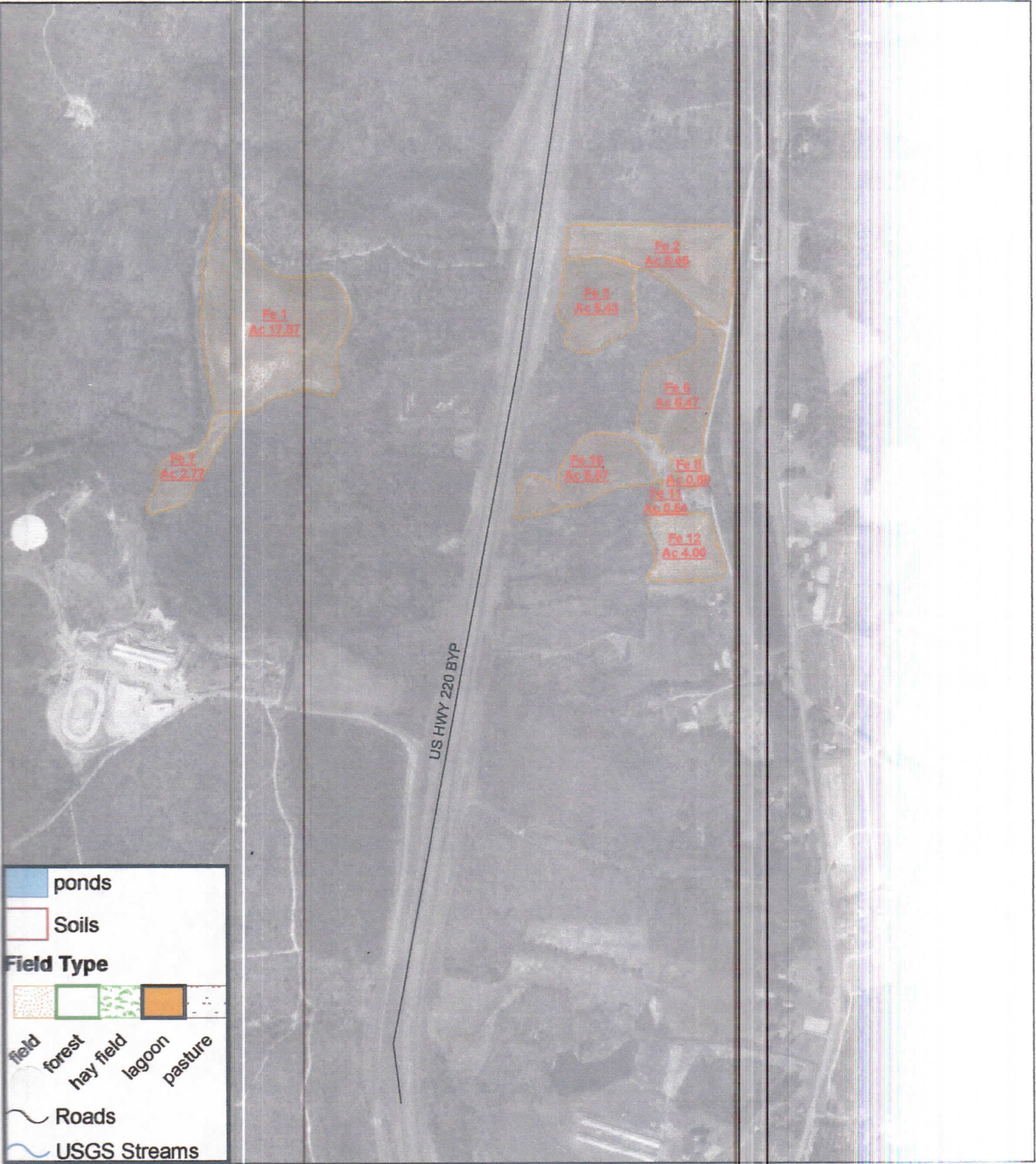
Roads

USGS Streams

ponds

Farm: Thomas Lawrence

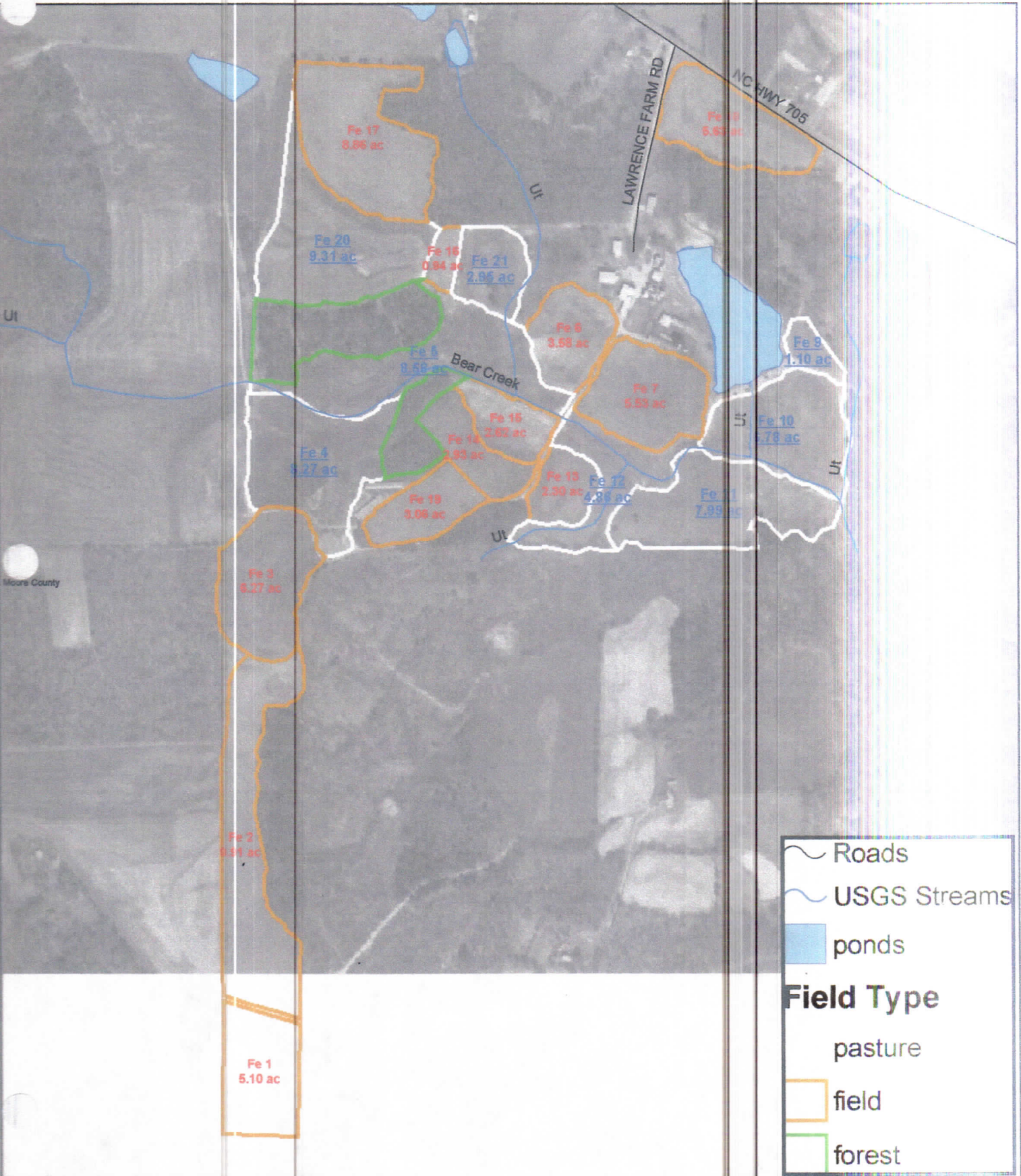
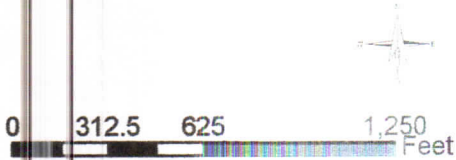
Tract: - 9846



Farm: Thomas Lawrence
Tract - 3490

Ramolph County

Moore County



Legend:

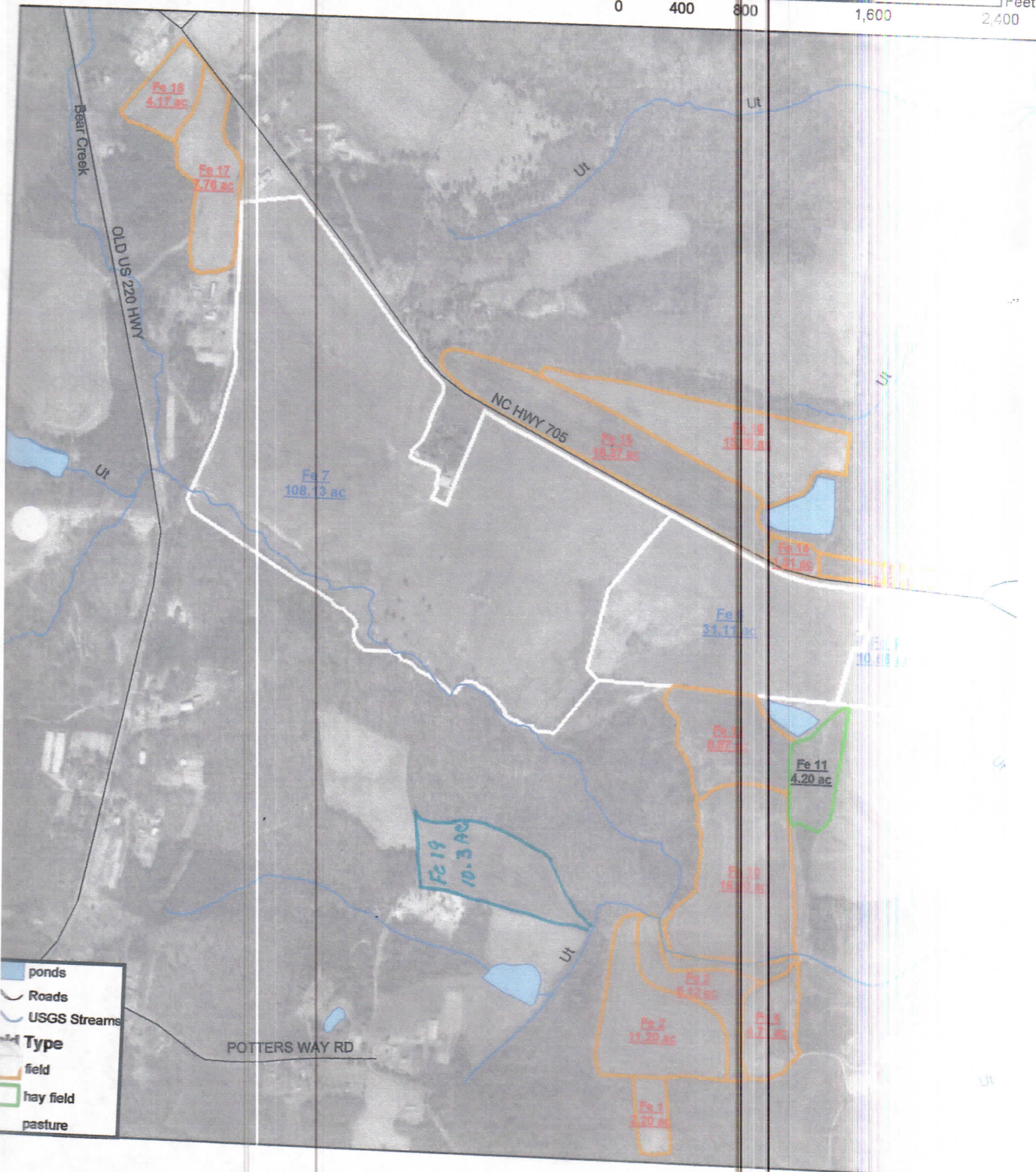
- Roads
- USGS Streams
- ponds

Field Type

- pasture
- field
- forest

Farm: Thomas Lawerence

Tract: - 3465



- ponds
- Roads
- USGS Streams
- Type
 - field
 - hay field
 - pasture