

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: 100003 and Certificate of Coverage Number: AWS100003
2. Facility Name: Clemmons and Sons #2 (New-CM2)
3. Landowner's name (same as on the Waste Management Plan): William Clemmons
4. Landowner's mailing address: 1140 Galloway Rd NE
City/State: Bolivia NC Zip: 28422
Telephone Number (include area code): (910)253-7373 E-mail:
(Hm) 910-253-6313
5. Facility's physical address: 1935 Galloway Rd Ne
City: Bolivia State: NC Zip: 28422
6. County where facility is located: Brunswick
7. Farm Manager's name (If different than the Landowner): Richard Clemmons
8. Farm Manager's telephone number (include area code): Hm 910-253-6984 cell # 910-279-1972
9. Integrator's name (if there is not an integrator write "None"): Murphy-Brown LLC
10. Operator in Charge (OIC) name: Alan Clemmons Telephone Number 910-279-2233 OIC # 22374
11. Lessee's name (if there is not a lessee write "None"): NONE
12. Indicate animal operation type and number: Feeder to Finish 3750

RECEIVED/DENR/DWR

MAR 21 2014

Water Quality Regional
Operations Section

Swine

Wean to Finish
Wean to Feeder
Farrow to Finish
Feeder to Finish 3750
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
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

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 A. Clemmons Title: Landowner
Signature: William A. Clemmons Date: 3/17/2014

Name: _____ Title: _____
Signature: _____ Date: _____

Name: _____ Title: _____
Signature: _____ Date: _____

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**

Current

Nutrient Management Plan For Animal Waste Utilization

09-09-2005

This plan has been prepared for:

Clemmons & Sons
William A. Clemmons
10-3
Bolivia, NC 28422

This plan has been developed by:

Mamie Caison
Brunswick SWCD
P.O. Box 26
Bolivia, NC 28422

RECEIVED/DENR/DWR

MAR 21 2014

Water Quality Regional
Operations Section

Mamie Caison

Developer Signature

Type of Plan: Nitrogen Only with Manure Only

Owner/Manager/Producer Agreement

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

William A. Clemmons

Signature (owner)

8-8-05

Date

Alan Dale Clemmons

Signature (manager or producer)

8-9-05

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:

Mamie Caison

Technical Specialist Signature

9-9-05

Date

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

Commercial Fertilizer is not included in this plan.

S7	Swine Feeder-Finish Lagoon Liquid waste generated 3,476,250 gals/year by a 3,750 animal Swine Finishing Lagoon Liquid operation. This production facility has waste storage capacities of approximately 180 days.				
Estimated Pounds of Plant Available Nitrogen Generated per Year					
Broadcast	8007				
Incorporated	13750				
Injected	15143				
Irrigated	8703				
	Max. Avail. PAN (lbs) *	Actual PAN Applied (lbs)	PAN Surplus/ Deficit (lbs)	Actual Volume Applied (Gallons)	Volume Surplus/ Deficit (Gallons)
Year 1	8,703	10364	-1,661	4,139,884	-663,634

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

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

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

Planned Crops Summary

Tract	Field	Total Acres	Useable Acres	Leaching Index (LI)	Soil Series	Crop Sequence	RYE
1952	17	1.90	1.90	N/A	Goldsboro	Hybrid Bermudagrass Pasture	6.5 Tons
						Small Grain Overseed	1.0 Tons
1952	18	1.20	1.20	N/A	Norfolk	Small Grain Overseed	1.0 Tons
						Hybrid Bermudagrass Hay	6.5 Tons
1952	4	1.80	1.80	N/A	Norfolk	Small Grain Overseed	1.0 Tons
						Hybrid Bermudagrass Hay	6.5 Tons
1952	5	5.00	5.00	N/A	Norfolk	Small Grain Overseed	1.0 Tons
						Hybrid Bermudagrass Hay	6.5 Tons
1952	7	5.60	5.60	N/A	Goldsboro	Hybrid Bermudagrass Pasture	6.5 Tons
						Small Grain Overseed	1.0 Tons
1952	7-Sub	3.00	3.00	N/A	Goldsboro	Hybrid Bermudagrass Pasture	6.5 Tons
						Small Grain Overseed	1.0 Tons
1954	1	2.30	2.30	N/A	Goldsboro	Small Grain Overseed	1.0 Tons
						Hybrid Bermudagrass Hay	6.5 Tons
1954	2	4.40	4.40	N/A	Goldsboro	Small Grain Overseed	1.0 Tons
						Hybrid Bermudagrass Hay	6.5 Tons
1954	3	3.50	3.50	N/A	Norfolk	Small Grain Overseed	1.0 Tons
						Hybrid Bermudagrass Hay	6.5 Tons
1954	6	2.10	2.10	N/A	Norfolk	Small Grain Overseed	1.0 Tons
						Hybrid Bermudagrass Hay	6.5 Tons
1954	6-Sub	1.40	1.40	N/A	Norfolk	Small Grain Overseed	1.0 Tons
						Hybrid Bermudagrass Hay	6.5 Tons

PLAN TOTALS: 32.20 32.20

Narrative

Clemmons Facility #10-3

Note: Sub Fields 6&7 are additional acreage that can be utilized for waste application with an aerway system.

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

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

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

Waste Utilization Table

Year 1

Tract	Field	Source ID	Soil Series	Total Acres	Use Acres	Crop	RYE	Applic. Period	Nitrogen PA Nutrient Req'd (lbs/A)	Comm. Fert. 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						
1952	17	S7	Goldsboro	1.90	1.90	Hybrid Bermudagrass Pasture	6.5 Tons	*3/1-10/15	222	0	0	0	Irrig.	222	88.68	0.00	168.48	0.00
1952	17	S7	Goldsboro	1.90	1.90	Small Grain Overseed	1.0 Tons	10/1-3/31	50	0	0	0	Irrig.	50	19.97	0.00	37.95	0.00
1952	18	S7	Norfolk	1.20	1.20	Small Grain Overseed	1.0 Tons	10/1-3/31	50	0	0	0	Irrig.	50	19.97	0.00	23.97	0.00
1952	18	S7	Norfolk	1.20	1.20	Hybrid Bermudagrass Hay	6.5 Tons	*3/1-10/15	296	0	0	0	Irrig.	296	118.24	0.00	141.88	0.00
1952	4	S7	Norfolk	1.80	1.80	Small Grain Overseed	1.0 Tons	10/1-3/31	50	0	0	0	Irrig.	50	19.97	0.00	35.95	0.00
1952	4	S7	Norfolk	1.80	1.80	Hybrid Bermudagrass Hay	6.5 Tons	*3/1-10/15	296	0	0	0	Irrig.	296	118.24	0.00	212.82	0.00
1952	5	S7	Norfolk	5.00	5.00	Small Grain Overseed	1.0 Tons	10/1-3/31	50	0	0	0	Irrig.	50	19.97	0.00	99.86	0.00
1952	5	S7	Norfolk	5.00	5.00	Hybrid Bermudagrass Hay	6.5 Tons	*3/1-10/15	296	0	0	0	Irrig.	296	118.24	0.00	591.17	0.00
1952	7	S7	Goldsboro	5.60	5.60	Hybrid Bermudagrass Pasture	6.5 Tons	*3/1-10/15	222	0	0	0	Irrig.	222	88.68	0.00	496.59	0.00
1952	7	S7	Goldsboro	5.60	5.60	Small Grain Overseed	1.0 Tons	10/1-3/31	50	0	0	0	Irrig.	50	19.97	0.00	111.84	0.00
1952	7-Sub	S7	Goldsboro	3.00	3.00	Hybrid Bermudagrass Pasture	6.5 Tons	*3/1-10/15	222	0	0	0	Irrig.	222	88.68	0.00	266.03	0.00
1952	7-Sub	S7	Goldsboro	3.00	3.00	Small Grain Overseed	1.0 Tons	10/1-3/31	50	0	0	0	Irrig.	50	19.97	0.00	59.92	0.00
1954	1	S7	Goldsboro	2.30	2.30	Small Grain Overseed	1.0 Tons	10/1-3/31	50	0	0	0	Irrig.	50	19.97	0.00	45.94	0.00
1954	1	S7	Goldsboro	2.30	2.30	Hybrid Bermudagrass Hay	6.5 Tons	*3/1-10/15	296	0	0	0	Irrig.	296	118.24	0.00	271.94	0.00
1954	2	S7	Goldsboro	4.40	4.40	Small Grain Overseed	1.0 Tons	10/1-3/31	50	0	0	0	Irrig.	50	19.97	0.00	87.88	0.00
1954	2	S7	Goldsboro	4.40	4.40	Hybrid Bermudagrass Hay	6.5 Tons	*3/1-10/15	296	0	0	0	Irrig.	296	118.24	0.00	520.23	0.00

Waste Utilization Table

Year 1

Tract	Field	Source ID	Soil Series	Total Acres	Use Acres	Crop	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)
1954	3	S7	Norfolk	3.50	3.50	Small Grain Overseed	10/1-3/31	50	0	0	Irrig.	50	19.97	0.00	69.90	0.00
1954	3	S7	Norfolk	3.50	3.50	Hybrid Bermudagrass Hay	*3/1-10/15	296	0	0	Irrig.	296	118.24	0.00	413.82	0.00
1954	6	S7	Norfolk	2.10	2.10	Small Grain Overseed	10/1-3/31	50	0	0	Irrig.	50	19.97	0.00	41.94	0.00
1954	6	S7	Norfolk	2.10	2.10	Hybrid Bermudagrass Hay	*3/1-10/15	296	0	0	Irrig.	296	118.24	0.00	248.29	0.00
1954	6-Sub	S7	Norfolk	1.40	1.40	Small Grain Overseed	10/1-3/31	50	0	0	Irrig.	50	19.97	0.00	27.96	0.00
1954	6-Sub	S7	Norfolk	1.40	1.40	Hybrid Bermudagrass Hay	*3/1-10/15	296	0	0	Irrig.	296	118.24	0.00	165.53	0.00
Total Applied: 1000 gallons																
Total Produced: 1000 gallons																
Balance: 1000 gallons																
Total Applied, tons																
Total Produced, tons																
Balance, tons																

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

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

Irrigation Application Factors

Tract	Field	Soil Series	Application Rate (inches/hour)	Application Amount (inches)
1952	17	Goldsboro	0.50	1.0
1952	18	Norfolk	0.50	1.0
1952	4	Norfolk	0.50	1.0
1952	5	Norfolk	0.50	1.0
1952	7	Goldsboro	0.50	1.0
1952	7-Sub	Goldsboro	0.50	1.0
1954	1	Goldsboro	0.50	1.0
1954	2	Goldsboro	0.50	1.0
1954	3	Norfolk	0.50	1.0
1954	6	Norfolk	0.50	1.0
1954	6-Sub	Norfolk	0.50	1.0

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	47.01	94.02	141.03
Hay 6 ton R.Y.E.	300	26.32	23.51	47.01	70.52
Soybean 40 bu	160	14.04	44.07	88.15	132.22

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	11/30		180
Plan Year	Month	Available Storage Capacity (Days) *	
1	1	180	
1	2	152	
1	3	180	
1	4	150	
1	5	119	
1	6	89	
1	7	58	
1	8	27	
1	9	-3	
1	10	-34	
1	11	-64	
1	12	-95	

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

Crop Notes

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

Bermudagrass Coastal Plain, Mineral Soil, Poorly Drained to Somewhat Poorly Drained.

Adaptation: Effective artificial drainage **MUST** be in place to achieve Realistic Yield Expectations provided for these soils.

In the Coastal Plain, hybrid bermudagrass sprigs can be planted Mar. 1 to Mar. 31. Cover sprigs 1" to 3" deep (1.5" optimal). Sprigs should be planted quickly after digging and not allowed to dry in sun and wind. For Coastal and Tifton 78 plant at least 10 bu/ac in 3' rows, spaced 2' to 3' in the row. Generally a rate of 30 bu/ac is satisfactory to produce full groundcover in one or two years under good growing conditions. Tifton 44 spreads slowly, so use at least 40 bu/ac in 1.5' to 2' rows spaced 1' to 1.5' in row. For broadcast/disked-in sprigs use about 60 bu/ac. Soil test for the amounts of lime, phosphorus, potassium and micronutrients to apply preplant and for annual maintenance. Apply 60 to 100 lb/ac N in the establishment year in split applications in April and July. For established stands apply 180 to 240 lb/ac N annually in split applications, usually in April and following the first and second hay cuts. Reduce N rates by 25% for grazing. Refer to NCSU Technical Bulletin 305 Production and Utilization of Pastures and Forages in North Carolina for more information or consult your regional agronomist or extension agent for assistance.

The following crop note applies to field(s): 18, 3, 4, 5, 6, 6-Sub

Bermudagrass Coastal Plain, Mineral Soil, Moderately Well Drained.

Adaptation: Well-adapted.

In the Coastal Plain, hybrid bermudagrass sprigs can be planted Mar. 1 to Mar. 31. Cover sprigs 1" to 3" deep (1.5" optimal). Sprigs should be planted quickly after digging and not allowed to dry in sun and wind. For Coastal and Tifton 78 plant at least 10 bu/ac in 3' rows, spaced 2' to 3' in the row. Generally a rate of 30 bu/ac is satisfactory to produce full groundcover in one or two years under good growing conditions. Tifton 44 spreads slowly, so use at least 40 bu/ac in 1.5' to 2' rows spaced 1' to 1.5' in row. For broadcast/disked-in sprigs use about 60 bu/ac. Soil test for the amounts of lime, phosphorus, potassium and micronutrients to apply preplant and for annual maintenance. Apply 60 to 100 lb/ac N in the establishment year in split applications in April and July. For established stands apply 180 to 240 lb/ac N annually in split applications, usually in April and following the first and second hay cuts. Reduce N rates by 25% for grazing. Refer to NCSU Technical Bulletin 305 Production and Utilization of Pastures and Forages in North Carolina for more information or consult your regional agronomist or extension agent for assistance.

The following crop note applies to field(s): 1, 17, 2, 7, 7-Sub

Small Grain: CP, Mineral Soil, low-leachable

In the Coastal Plain, oats and barley should be planted from October 15-October 30; and rye from October 15-November 20. For barley, plant 22 seed/drill row foot and increase the seeding rate by 5% for each week seeding is delayed beyond the optimum time. See the seeding rates table for applicable seeding rate modifications in the current NCSU "Small Grain Production Guide". Also, increase the initial seeding rate by at least 10% when planting no-till. Oats should be planted at 2 bushels/acre and rye at 1-1 1/2 bushels/acre. Plant all these small grains at 1-1 1/2" deep. Adequate depth control is essential. Review the NCSU Official Variety "green book" and information from private companies to select a high yielding variety with the characteristics needed for your area and conditions. Apply no more than 30 lbs/acre N at planting. Phosphorus and potash recommended by a soil test can also be applied at this time. The remaining N should be applied during the months of February-March.

The following crop note applies to field(s): 18, 3, 4, 5, 6, 6-Sub

Small Grain: CP, Mineral Soil, medium leachable

In the Coastal Plain, oats and barley should be planted from October 15-October 30; and rye from October 15-November 20. For barley, plant 22 seed/drill row foot and increase the seeding rate by 5% for each week seeding is delayed beyond the optimum time. See the seeding rates table for applicable seeding rate modifications in the current NCSU "Small Grain Production Guide". Also, increase the initial seeding rate by at least 10% when planting no-till. Oats should be planted at 2 bushels/acre and rye at 1-1 1/2 bushels/acre. Plant all these small grains at 1-1 1/2" deep. Adequate depth control is essential. Review the NCSU Official Variety "green book" and information from private companies to select a high yielding variety with the characteristics needed for your area and conditions. Apply no more than 30 lbs/acre N at planting. Phosphorus and potash recommended by a soil test can also be applied at this time. The remaining N should be applied during the months of February-March.

The following crop note applies to field(s): 17, 7, 7-Sub
Bermudagrass CP, Mineral Soil, Poorly Drained to Somewhat Poorly Drained.

Adaptation: Effective artificial drainage **MUST** be in place to achieve Realistic Yield Expectations provided for these soils.

In the Coastal Plain, hybrid bermudagrass sprigs can be planted Mar. 1 to Mar. 31. Cover sprigs 1" to 3" deep (1.5" optimal). Sprigs should be planted quickly after digging and not allowed to dry in sun and wind. For Coastal and Tifton 78 plant at least 10 bu/ac in 3' rows, spaced 2' to 3' in the row. Generally a rate of 30 bu/ac is satisfactory to produce full groundcover in one or two years under good growing conditions. Tifton 44 spreads slowly, so use at least 40 bu/ac in 1.5' to 2' rows spaced 1' to 1.5' in row. For broadcast/disked-in sprigs use about 60 bu/ac. Soil test for the amounts of lime, phosphorus, potassium and micronutrients to apply preplant and for annual maintenance. Apply 60 to 100 lb/ac N in the establishment year in split applications in April and July. For established stands apply 180 to 240 lb/ac N annually in split applications, usually in April and following the first and second hay cuts. Reduce N rates by 25% for grazing. Refer to NCSU Technical Bulletin 305 Production and Utilization of Pastures and Forages in North Carolina for more information or consult your regional agronomist or extension agent for assistance.

Brunswick County NC GIS



March 18, 2014

1 = 660 Feet



Disclaimer: Map and parcel data are believed to be accurate, but accuracy is not guaranteed. This is not a legal document and should not be substituted for a title search, appraisal, survey, or for zoning verification.

