

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: 250010 and Certificate of Coverage Number: AWS250010
2. Facility Name: TRC Farms, Inc.
3. Landowner's name (same as on the Waste Management Plan): Trc Farms Inc
4. Landowner's mailing address: 403 Loop Rd
City/State: Cove City NC Zip: 28523
Telephone Number (include area code): (252)514-8132 E-mail: _____
5. Facility's physical address: 505 Barwick Rd
City: Dover State: NC Zip: 28526
6. County where facility is located: Craven
7. Farm Manager's name (If different than the Landowner): Timmy Cox
8. Farm Manager's telephone number (include area code): _____
9. Integrator's name (if there is not an integrator write "None"): J C Howard Farms
10. Operator in Charge (OIC) name: Timmy Cox 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 3520
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

RECEIVED/DENR/DWR

MAR 21 2014

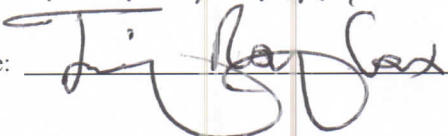
Water Quality Regional
Operations Section

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: Timmy RAY COX Title: PRES.
Signature:  Date: 3-11-14

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



North Carolina Department of Environment and Natural Resources

Division of Water Resources
Water Quality Programs
Thomas A. Reeder
Director

John E. Skvarla, III
Secretary

Pat McCrory
Governor

March 3, 2014

Trc Farms Inc
TRC Farms, Inc.
403 Loop Rd
Cove City, NC 28523

Subject: Application for Renewal of Coverage for Expiring State General Permit

Dear Permittee:

Your facility is currently approved for operation under one of the Animal Waste Operation State Non-Discharge General Permits, which expire on September 30, 2014. Copies of the new animal waste operation State Non-Discharge General Permits are available at <http://www.ncwaterquality.org/web/wq/aps/afo/apps> or by writing or calling:

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

Telephone number: (919) 807-6464

In order to assure your continued coverage under the State Non-Discharge General Permits, you must submit an application for permit coverage to the Division. Enclosed you will find a 'Request for Certificate of Coverage Facility Currently Covered by an Expiring State Non-Discharge General Permit'. The application form must be completed, signed and returned by April 1, 2014. Please note that you must include one (1) copy of your most recent Waste Utilization Plan with the signed application form.

Failure to request renewal of your coverage under a general permit within the time period specified may result in a civil penalty. Operation of your facility without coverage under a valid general permit would constitute a violation of NCGS 143-215.1 and could result in assessments of civil penalties of up to \$25,000 per day.

If you have any questions about the State Non-Discharge General Permits, the enclosed application, or any related matter please feel free to contact the Animal Feeding Operations Branch staff at 919-807-6464.

Sincerely,

S. Jay Zimmerman, P.G., Chief
Water Quality Regional Operations Section

Enclosures

cc (w/o enclosures): Washington Regional Office, Water Quality Regional Operations Section
Craven County Soil and Water Conservation District
WQROS Unit Central Files - AWS250010
J C Howard Farms

1636 Mail Service Center, Raleigh, North Carolina 27699-1636
Location: 512 N. Salisbury St. Raleigh, North Carolina 27604
Phone: 919-807-6464 \ FAX: 919-807-6492
Internet: www.ncwaterquality.org

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Nutrient Management Plan For Animal Waste Utilization
04-04-2007

This plan has been prepared for:

*TRC Farms Incorporated
Timmy Ray Cox
P.O. Box 460
Cove City, NC 28523
252-633-3302*

This plan has been developed by:

*Patrick K. Baker
Craven Soil & Water Conservation District
302 Industrial Drive
New Bern, NC 28562
252-637-2547, ext. 3*

RECEIVED/DENR/DWR

Developer Signature

MAR 21 2014

Type of Plan: Nutrient Management with Manure Only

Water Quality Regional
Operations Section

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.

TRCFARMS INC. By Timmy Ray Cox
Signature (owner)

4-9-07
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:

Andrew W. Mott
Technical Specialist Signature

4-9-07
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 3,263,040 gals/year by a 3,520 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	7515				
Incorporated	12907				
Injected	14214				
Irrigated	8169				
	Max. Avail. PAN (lbs) *	Actual PAN Applied (lbs)	PAN Surplus/ Deficit (lbs)	Actual Volume Applied (Gallons)	Volume Surplus/ Deficit (Gallons)
Year 1	8,169	8503	-334	3,396,347	-133,307

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, 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)
334	1	7.00	6.29	Low	17.0	Goldsboro	Small Grain Overseed	1.0 Tons	15	N/A
							Hybrid Bermudagrass Hay	6.5 Tons	80	N/A
334	2a	14.00	10.24	Low	17.0	Rains	Small Grain Overseed	1.0 Tons	15	N/A
							Hybrid Bermudagrass Hay	4.5 Tons	55	N/A
334	2b	14.33	10.24	Low	13.0	Lynchburg	Small Grain Overseed	1.0 Tons	15	N/A
							Hybrid Bermudagrass Hay	5.5 Tons	68	N/A

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	Comm. Fert.	Res.	Applic. Method	Manure PA	Liquid ManureA	Solid Manure	Liquid Manure	Solid Manure
									Nutrient Req'd (lbs/A)	Nutrient Applied (lbs/A)	(lbs/A)		NutrientA	plied (acre)	Applied (acre)	Applied (Field)	Applied (Field)
									N	N	N		N	1000 gal/A	Tons	1000 gals	tons
334	1	S7	Goldsboro	7.00	6.29	Small Grain Overseed	1.0 Tons	10/1-3/31	50	0	0	Irrig.	50	19.97	0.00	125.62	0.00
334	1	S7	Goldsboro	7.00	6.29	Hybrid Bermudagrass Hay	6.5 Tons	3/1-9/30	*325	0	0	Irrig.	325	129.82	0.00	816.56	0.00
334	2a	S7	Rains	14.00	10.24	Small Grain Overseed	1.0 Tons	10/1-3/31	50	0	0	Irrig.	50	19.97	0.00	204.51	0.00
334	2a	S7	Rains	14.00	10.24	Hybrid Bermudagrass Hay	4.5 Tons	3/1-9/30	*225	0	0	Irrig.	225	89.87	0.00	920.31	0.00
334	2b	S7	Lynchburg	14.33	10.24	Small Grain Overseed	1.0 Tons	10/1-3/31	50	0	0	Irrig.	50	19.97	0.00	204.51	0.00
334	2b	S7	Lynchburg	14.33	10.24	Hybrid Bermudagrass Hay	5.5 Tons	3/1-9/30	*275	0	0	Irrig.	275	109.85	0.00	1,124.83	0.00
Total Applied, 1000 gallons																3,396.35	
Total Produced, 1000 gallons																3,263.04	
Balance, 1000 gallons																-133.31	
Total Applied, tons																	0.00
Total Produced, tons																	0.00
Balance, tons																	0.00

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

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)
334	1	Goldboro	0.50	1.0
334	2a	Rains	0.40	1.0
334	2b	Lynchburg	0.50	1.0

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		0			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	334	1	Req'd Nutrients	50	0	0	0	0	0	0	0
Acres	App. Period	6.29	10/1-3/31	Supplied By:								
CROP		Small Grain Overseed		Starter	0	0	0	0	0	0	0	0
				Commercial Fert.	0	0	0	0	0	0	0	0
Soil Series		Goldsboro		Residual	0	0	0	0	0	0	0	0
RYE	Sample Date	1.0 Tons	02-13-06	Manure	50	27	68	6	0	1	0	0
P Removal	Rating	15 lbs/ac.	Low	BALANCE	0	27	68	6	0	1	0	0
Tract	Field	334	2a	Req'd Nutrients	50	0	0	0	0	0	0	0
Acres	App. Period	10.24	10/1-3/31	Supplied By:								
CROP		Small Grain Overseed		Starter	0	0	0	0	0	0	0	0
				Commercial Fert.	0	0	0	0	0	0	0	0
Soil Series		Rains		Residual	0	0	0	0	0	0	0	0
RYE	Sample Date	1.0 Tons	02-13-06	Manure	50	27	68	6	0	1	0	0
P Removal	Rating	15 lbs/ac.	Low	BALANCE	0	27	68	6	0	1	0	0
Tract	Field	334	2b	Req'd Nutrients	50	0	0	0	0	0	0	0
Acres	App. Period	10.24	10/1-3/31	Supplied By:								
CROP		Small Grain Overseed		Starter	0	0	0	0	0	0	0	0
				Commercial Fert.	0	0	0	0	0	0	0	0
Soil Series		Lynchburg		Residual	0	0	0	0	0	0	0	0
RYE	Sample Date	1.0 Tons	02-13-06	Manure	50	27	68	6	0	1	0	0
P Removal	Rating	15 lbs/ac.	Low	BALANCE	0	27	68	6	0	1	0	0

NOTE: Symbol * means user entered data.

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	334	1	Req'd Nutrients	*325	0	0	0	0	0	0	0
Acres	App. Period	6.29	3/1-9/30	Supplied By:								
CROP		Hybrid Bermudagrass Hay		Starter	0	0	0	0	0	0	0	0
				Commercial Fert.	0	0	0	0	0	0	0	0
Soil Series		Goldsboro		Residual	0	0	0	0	0	0	0	0
RYE	Sample Date	6.5 Tons	02-13-06	Manure	325	177	445	40	2	7	1	0
P Removal	Rating	80 lbs/ac.	Low	BALANCE	0	177	445	40	2	7	1	0
Tract	Field	334	2a	Req'd Nutrients	*225	0	0	0	0	0	0	0
Acres	App. Period	10.24	3/1-9/30	Supplied By:								
CROP		Hybrid Bermudagrass Hay		Starter	0	0	0	0	0	0	0	0
				Commercial Fert.	0	0	0	0	0	0	0	0
Soil Series		Rains		Residual	0	0	0	0	0	0	0	0
RYE	Sample Date	4.5 Tons	02-13-06	Manure	225	123	308	28	1	5	1	0
P Removal	Rating	55 lbs/ac.	Low	BALANCE	0	123	308	28	1	5	1	0
Tract	Field	334	2b	Req'd Nutrients	*275	0	0	0	0	0	0	0
Acres	App. Period	10.24	3/1-9/30	Supplied By:								
CROP		Hybrid Bermudagrass Hay		Starter	0	0	0	0	0	0	0	0
				Commercial Fert.	0	0	0	0	0	0	0	0
Soil Series		Lynchburg		Residual	0	0	0	0	0	0	0	0
RYE	Sample Date	5.5 Tons	02-13-06	Manure	275	150	377	34	1	6	1	0
P Removal	Rating	68 lbs/ac.	Low	BALANCE	0	150	377	34	1	6	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
334	1	Small Grain Overseed	6.1	0.0	48	None	42	None
334	1	Hybrid Bermudagrass Hay	6.1	0.0	48	None	42	None
334	2a	Small Grain Overseed	6.8	0.0	44	None	95	None
334	2a	Hybrid Bermudagrass Hay	6.8	0.0	44	None	95	None
334	2b	Small Grain Overseed	6.8	0.0	44	None	95	None
334	2b	Hybrid Bermudagrass Hay	6.8	0.0	44	None	95	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	44.13	88.26	132.38
Hay 6 ton R.Y.E.	300	26.32	22.06	44.13	66.19
Soybean 40 bu	160	14.04	41.37	82.74	124.11

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		180
Plan Year	Month	Available Storage Capacity (Days) *	
1	1	66	
1	2	50	
1	3	61	
1	4	79	
1	5	112	
1	6	146	
1	7	179	
1	8	180	
1	9	166	
1	10	140	
1	11	118	
1	12	99	

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

Crop Notes

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

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): 2b

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): 1

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): 2a

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): 2b

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): 1

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.

1/2 SPRINKLES

Timmy Cor Sub 1" = 200'

Operate 1 gun per lane

Lateral & sprinkler spacing 140' apart

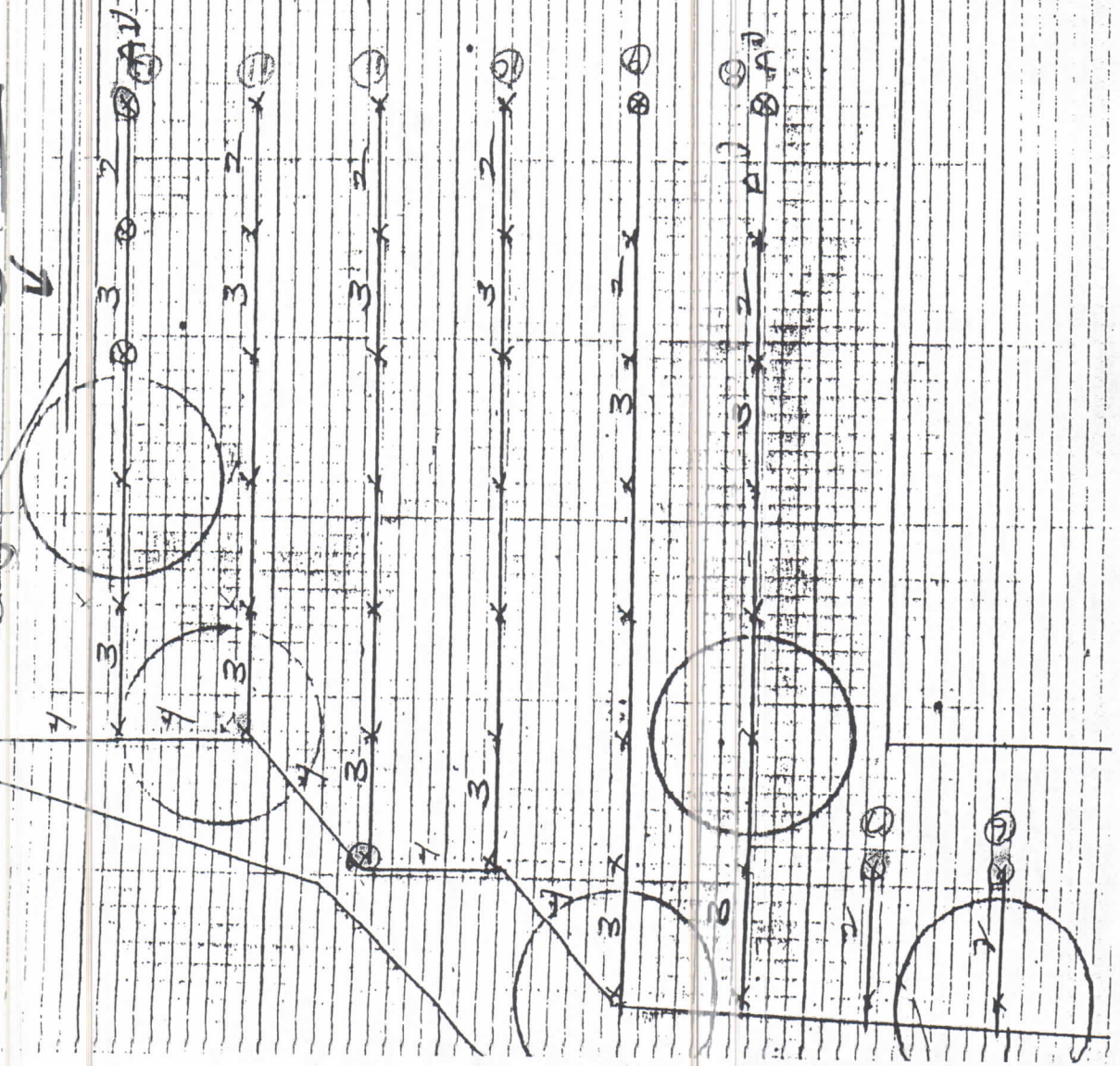
App rate .29"

2 gun = 120 GPM

F100 15 nozzle, 70 PSI, 600 GPM

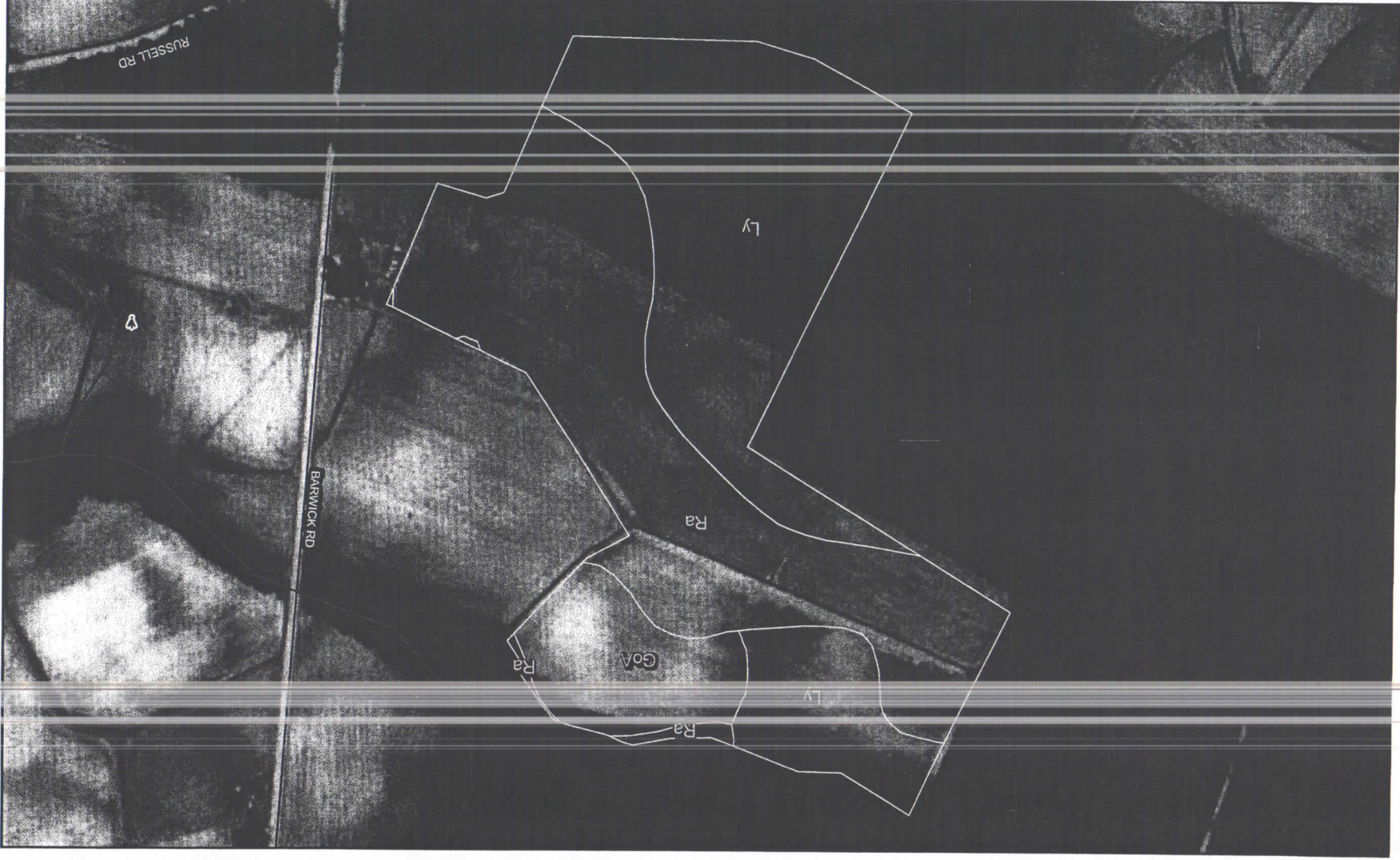
2251 DIAMETER

20.47 AC



SOIL SURVEY OF CRAVEN COUNTY, NORTH CAROLINA

SOIL MAP - TRC FARMS INCORPORATED



0 50 100 200
Meters

0 150 300 600 900 1,200
Feet

AGREEMENT

1, Albert & Martha Cox have entered into an agreement with T.R.C. Farms, Inc.
Timmy Ray Cox Pres. to allow him to spread effluent from his waste treatment lagoon on 60 acres (Tract 334 Field Numbers 1,3,4,5,6) of Farm land for a period of no less than 10 years.

I understand that best management practices will be used in applying the waste to keep runoff and odor to a minimum.

The above agreement shall be in effect as long as the following conditions are met:

- 1) Albert & Martha Cox owns the land (tract # 334) where the facilities and hogs are located.
Albert Cox
- 2) As long as I, Martha Cox, owns the land across the road from tract # 334.

Martha Cox / Albert Cox
Owner

2-2-94
Date

Timmy Cox Pres
Producer

3-3-94
Date

In the event any conditions specified in items 1-2 above causes this agreement to be cancelled I, Timmy Ray Cox agree to either obtain additional adjoining land sufficient for the pumping of lagoon effluent or to reduce the size of my livestock operation to the point my farm ASC # 3474 Tract 334 will be of adequate size to handle all lagoon effluent.

Timmy Cox
Signed

2-2-94
Date

EMERGENCY ACTION PLAN

PHONE NUMBERS

DWQ 919-946-6481

EMERGENCY MANAGEMENT SYSTEM 919-636-6608

SWCD 919-637-2547

NRCS 919-637-2547

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 flowing leaks-possible action:

- a. Dig a small sump or ditch away from the embankment to catch all seepage, put in a submersible pump, and pump back to 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 919-946-6481. 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 919-636-6608.
- c. Instruct EMS to contact local Health Department.
- d. Contact CES, phone number 919-633-1477, local SWCD office phone number 919-637-2547, and local NRCS office for advice/technical assistance phone number 919-637-2547.

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: _____
- b. Contractors Address: _____
- c. Contractors Phone: _____

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

- a. Name: Andrew W. Mette
- b. Phone: 637-2547

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.

SWINE FARM WASTE MANAGEMENT ODOR CHECKLIST

Source	Cause	BMPs to Minimize Odor	Site Specific Practices
Farmstead	• Swine production	<input type="checkbox"/> Vegetative or wooded buffers; <input type="checkbox"/> Recommended best management practices; <input checked="" type="checkbox"/> Good judgment and common sense	
Animal body surfaces	• Dirty manure-covered animals	<input type="checkbox"/> Dry floors	
Floor surfaces	• Wet manure-covered floors	<input checked="" type="checkbox"/> Slotted floors; <input type="checkbox"/> Waterers located over slotted floors; <input type="checkbox"/> Feeders at high end of solid floors; <input type="checkbox"/> Scrape manure buildup from floors; <input type="checkbox"/> Underfloor ventilation for drying	
Manure collection pits	• Urine; • Partial microbial decomposition	<input checked="" type="checkbox"/> Frequent manure removal by flush, pit recharge, or scrape; <input type="checkbox"/> Underfloor ventilation	
Ventilation exhaust fans	• Volatile gases; • Dust	<input type="checkbox"/> Fan maintenance; <input type="checkbox"/> Efficient air movement	
Indoor surfaces	• Dust	<input checked="" type="checkbox"/> Washdown between groups of animals; <input type="checkbox"/> Feed additives; <input type="checkbox"/> Feeder covers; <input type="checkbox"/> Feed delivery downspout extenders to feeder covers	
Flush tanks	• Agitation of recycled lagoon liquid while tanks are filling	<input type="checkbox"/> Flush tank covers; <input type="checkbox"/> Extend fill lines to near bottom of tanks with anti-siphon vents	
Flush alleys	• Agitation during wastewater conveyance	<input type="checkbox"/> Underfloor flush with underfloor ventilation	
Pit recharge points	• Agitation of recycled lagoon liquid while pits are filling	<input checked="" type="checkbox"/> Extend recharge lines to near bottom of pits with anti-siphon vents	
Lift stations	• Agitation during sump tank filling and drawdown	<input type="checkbox"/> Sump tank covers	
Outside drain collection or junction boxes	• Agitation during wastewater conveyance	<input type="checkbox"/> Box covers	

Source	Cause	BMPs to Minimize Odor	Site Specific Practices
End of drainpipes at lagoon	<ul style="list-style-type: none"> • Agitation during wastewater conveyance 	<input type="checkbox"/> Extend discharge point of pipes underneath lagoon liquid level	
Lagoon surfaces	<ul style="list-style-type: none"> • Volatile gas emissions; • Biological mixing; • Agitation 	<input checked="" type="checkbox"/> Proper lagoon liquid capacity; <input type="checkbox"/> Correct lagoon startup procedures; <input type="checkbox"/> Minimum surface area-to-volume ratio; <input type="checkbox"/> Minimum agitation when pumping; <input type="checkbox"/> Mechanical aeration; <input type="checkbox"/> Proven biological additives	
Irrigation sprinkler nozzles	<ul style="list-style-type: none"> • High pressure agitation; • Wind drift 	<input checked="" type="checkbox"/> Irrigate on dry days with little or no wind; <input checked="" type="checkbox"/> Minimum recommended operating pressure; <input type="checkbox"/> Pump intake near lagoon liquid surface; <input type="checkbox"/> Pump from second-stage lagoon	
Storage tank or basin surface	<ul style="list-style-type: none"> • Partial microbial decomposition; • Mixing while filling; • Agitation when emptying 	<input type="checkbox"/> Bottom or midlevel loading; <input type="checkbox"/> Tank covers; <input type="checkbox"/> Basin surface mats of solids; <input type="checkbox"/> Proven biological additives or oxidants	
Settling basin surface	<ul style="list-style-type: none"> • Partial microbial decomposition; • Mixing while filling; • Agitation when emptying 	<input type="checkbox"/> Extend drainpipe outlets underneath liquid level; <input type="checkbox"/> Remove settled solids regularly	
Manure, slurry or sludge spreader outlets	<ul style="list-style-type: none"> • Agitation when spreading; • Volatile gas emissions 	<input type="checkbox"/> Soil injection of slurry/sludges; <input type="checkbox"/> Wash residual manure from spreader after use; <input type="checkbox"/> Proven biological additives or oxidants	
Uncovered manure, slurry or sludge on field surfaces	<ul style="list-style-type: none"> • Volatile gas emissions while drying 	<input type="checkbox"/> Soil injection of slurry/sludges <input type="checkbox"/> Soil incorporation within 48 hrs.; <input type="checkbox"/> Spread in thin uniform layers for rapid drying; <input type="checkbox"/> Proven biological additives or oxidants	
Dead animals	<ul style="list-style-type: none"> • Carcass decomposition 	<input checked="" type="checkbox"/> Proper disposition of carcasses	
Dead animal disposal pits	<ul style="list-style-type: none"> • Carcass decomposition 	<input type="checkbox"/> Complete covering of carcasses in burial pits; <input type="checkbox"/> Proper location/construction of disposal pits	
Incinerators	<ul style="list-style-type: none"> • Incomplete combustion 	<input type="checkbox"/> Secondary stack burners	

Source	Cause	BMPs to Minimize Odor	Site Specific Practices
Standing water around facilities	<ul style="list-style-type: none"> • Improper drainage; • Microbial decomposition of organic matter 	<input checked="" type="checkbox"/> Grade and landscape such that water drains away from facilities	
Manure tracked onto public roads from farm access	<ul style="list-style-type: none"> • Poorly maintained access roads 	<input type="checkbox"/> Farm access road maintenance	

Additional Information :

Swine Manure Management ; 0200 Rule/BMP Packet
 Swine Production Farm Potential Odor Sources and Remedies ; EBAE Fact Sheet
 Swine Production Facility Manure Management: Pit Recharge - Lagoon Treatment ; EBAE 128-88
 Swine Production Facility Manure Management: Underfloor Flush - Lagoon Treatment ; EBAE 129-88
 Lagoon Design and Management for Livestock Manure Treatment and Storage ; EBAE 103-83
 Calibration of Manure and Wastewater Application Equipment ; EBAE Fact Sheet
 Controlling Odors from Swine Buildings ; PIH-33
 Environmental Assurance Program ; NPPC Manual
 Options for Managing Odor ; a report from the Swine Odor Task Force
 Nuisance Concerns in Animal Manure Management: Odors and Flies ; PRO107, 1995 Conference Proceedings

Available From :

NCSU, County Extension Center
 NCSU - BAE
 NCSU - BAE
 NCSU - BAE
 NCSU - BAE
 NCSU - BAE
 NCSU - Swine Extension
 NC Pork Producers Assoc
 NCSU Agri Communications
 Florida Cooperative Extension

Insect Control Checklist for Animal Operations

Source	Cause	BMPs to Control Insects	Site Specific Practices
Liquid Systems			
Flush Gutters	• Accumulation of solids	<input checked="" type="checkbox"/> Flush system is designed and operated sufficiently to remove accumulated solids from gutters as designed. <input type="checkbox"/> Remove bridging of accumulated solids at discharge	
Lagoons and Pits	• Crusted Solids	<input checked="" type="checkbox"/> 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	<input checked="" type="checkbox"/> 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	<input type="checkbox"/> Design, operate and maintain feed systems (e.g., bunkers and troughs) to minimize the accumulation of decaying wastage. <input type="checkbox"/> Clean up spillage on a routine basis (e.g., 7 - 10 day interval during summer, 15-30 day interval during winter).	
Feed Storage	• Accumulations of feed residues	<input type="checkbox"/> 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). <input type="checkbox"/> Inspect for and remove or break up accumulated solids in filter strips around feed storage as needed.	

Source	Cause	BMPs to Control Insects	Site Specific Practices
Animal Holding Areas	<ul style="list-style-type: none"> Accumulations of animal wastes and feed wastage 	<ul style="list-style-type: none"> <input type="checkbox"/> Eliminate low areas that trap moisture along fences and other locations where waste accumulates and disturbance by animals is minimal. <input type="checkbox"/> 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). 	
Dry Manure Handling Systems	<ul style="list-style-type: none"> Accumulations of animal wastes 	<ul style="list-style-type: none"> <input type="checkbox"/> 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. <input type="checkbox"/> Provide for adequate drainage around manure stockpiles. <input type="checkbox"/> 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)