ATTACHMENT SECTION C.9.

8. Storage Requirements.
Existing and proposed sludge storage facilities must provide an estimated annual sludge balance on a monthly basis incorporating such factors as storage capacity, sludge production and land application schedule. Include pertinent calculations justifying storage requirements.
Proposed sludge storage facilities must also provide the following information:
   a. A sludge storage site layout on a 7.5 minute topographic quadrangle or other appropriate scaled map to show the following topographic features of the surrounding landscape to a distance of 0.25 mile. Clearly mark the property line.
      1) Water wells, abandoned or operating
      2) Surface waters
      3) Springs
      4) Public water supply(s)
      5) Sinkholes
      6) Underground and/or surface mines
      7) Mine pool (or other) surface water discharge points
      8) Mining spoil piles and mine dumps
      9) Quarry(s)
      10) Sand and gravel pits
      11) Gas and oil wells
      12) Diversion ditch(s)
      13) Agricultural drainage ditch(s)
      14) Occupied dwellings, including industrial and commercial establishments
      15) Landfills or dumps
      16) Other unlined impoundments
      17) Septic tanks and drainfields
      18) Injection wells
      19) Rock outcrops
   b. A topographic map of sufficient detail to clearly show the following information:
      1) Maximum and minimum percent slopes
      2) Depressions on the site that may collect water
      3) Drainageways that may attribute to rainfall run-on to or runoff from this site
      4) Portions of the site (if any) which are located with the 100-year floodplain and how the storage facility will be protected from flooding
   c. Data and specifications for the storage facility lining material.
   d. Plan and cross-sectional views of the storage facility.
   e. Depth from the bottom of the storage facility to the seasonal high water table and separation distance to the permanent water table.

9. Land Area Requirements. Provide calculations justifying the land area requirements for land application of sewage sludge taking into consideration average soil productivity group, crop(s) to be grown and most limiting factor(s) of the sewage sludge, specifically Plant Available Nitrogen (PAN), Calcium Carbonate Equivalence (CCE), and metal loadings (CPLR sewage sludge only), where applicable. Relate PAN, CCE, and metal loadings to demonstrate the most limiting factor for land application.
See Attachment Section C, 9.

10. Landowner Agreement Forms. Provide a properly completed Sewage Sludge Application Agreement Form (attached) for each landowner if sewage sludge is to be applied onto land not owned by the applicant.

11. Ground Water Monitoring.
Are any ground water monitoring data available for this land application site? __Yes __No
If yes, submit the ground water monitoring data with this permit application. Also submit a written description of the well locations, approximate depth to ground water, and the ground water monitoring procedures used to obtain these data.

12. Land Application Site Information.
(Complete Items a-d for sites receiving infrequent application - land application of sewage sludge up to the agronomic rate at a frequency of once in a 3 year period; complete Items a-h for sites receiving frequent application - land application of sewage sludge in excess of 70% the agronomic rate at a frequency greater than once in a 3 year period)

   a. Provide a general location map for each county which clearly indicates the location of all the land application sites.

   b. For each land application site provide a site plan of sufficient detail to clearly show the concerned landscape features and associated buffer zones (See instructions). Provide a legend for each landscape feature and the net acreage for each field taking into account the proposed buffer zones.

Douglas W. Domenech
Secretary of Natural Resources

David A. Johnson
Director

COMMONWEALTH of VIRGINIA

DEPARTMENT OF CONSERVATION AND RECREATION

203 Governor Street, Suite 206
Richmond, Virginia 23219
(804) 786-2064

7/29/2011

Paul Bodenstine
ag.systems
6158 Westhaven Dr.
Mechanicsville, VA 23111

RE: Nutrient management plan submission: 6/7/2011

Dear Mr. Bodenstine

Your nutrient management plan for biosolids applications on Jimmy Babb (Southampton Correctional)'s Farm located in Southampton County in watershed(s) CU42 has been approved by the Department of Conservation and Recreation. Please note that this letter should be kept with the nutrient management plan. Feel free to contact me should you have any questions concerning this letter.

Sincerely,

Rachel Barnes McAden
Environmental Specialist - Biosolids
Division of Stormwater Management
(804) 371-2762
rachel.mcaden@dcr.virginia.gov

cc:
DEQ Tidewater Regional Office

Nutrient Management Plan Identification

Operator	Jimmy Babb
Farm Name	Southampton D.O.C
Address	14545 Old Bellfield Rd. Capron, VA 23829
Telephone	434-637-2569
County & Corresponding Acres	Southampton – 1,046.1
County & Corresponding Acres	
Hydrologic Unit & Corresponding Acres	CU42 – 1,133.28
Hydrologic Unit & Corresponding Acres	
Total Acres in Plan	1,133.28
Cropland	797.3
Bermuda Hay	39.0
Pasture	359.9
Grass/ Set-Aside	36.3
Date of Plan	Jan. 1, 2010 – Jan. 1, 2013
Plan Status	New
Plan Update	06/17/11
Livestock	2,114 Swine, 50 Beef Cattle
Certified Nutrient Mgt. Planner	Paul W. Bodenstine
Planner Signature	
Virginia Certification Number	142
Company	ag.systems
Title	agronomist
Address	6158 Westhaven Dr. Mechanicsville, VA 23111
Phone	(804) 730-0091
Fax	(804) 730-9696
Email	agsystems@verizon.net

Nutrient Management Plan Narrative

This Nutrient Management Plan was created from data provided by Jimmy Babb for the 1,133.28 acres noted in the map section. Southampton D.O.C is based in Southampton Co., Virginia. The farm produces asparagus, Bermuda hay, broccoli, corn, snap beans, soybeans and watermelons. The operation contains non-confined beef cattle that graze on 359.9 acres of pasture. There are several fields that serve as grass holding pens for working on cattle.

Southampton D.O.C. also contains a swine operation that includes 194 sows – farrow to finish. They have a gestation house for 140 sows and 14 boars, a farrow house for 40 sows, a nursery for 720 pigs and two finishing houses for 1,200 hogs. These are recharge type facilities that are drained into a sump pit where the manure is pumped into a slurry-store for storage and treatment. This storage is location is identified in the *Amendment: Swine* section of the Plan. The facility pits are then recharged with effluent from the slurry-store. The operation will generate approximately 751,000 gallons annually to be land applied. The slurry-store will hold 726,600 gallons. The effluent will be spread with a liquid manure spreader on crop land, Bermuda hay and pasture with no incorporation.

The farm also contains a bio-solid operation. This consists of bio-solids generated at Southampton D.O.C., St. Brides and Indian Creek's treatment plants. The sludge is compressed, dewatered and stored in concrete drying beds and storage areas. It will be applied to designated fields and incorporated immediately. The operation generates approximately 300 tons of bio-solids annually based on operation records. Not all production is used on this farm. These fields will not receive swine manure in the same year.

Fields in this plan have been pre-determined to receive either swine manure or biosolids over the next three years. Applications can be made to fields in the plan not identified if the following criteria are followed: 1) Manure applications can be made only if maximum rates per crop do not exceed nitrogen needs if the field is N-based and do not exceed phosphorus crop removal if the field is P-based. 2) Nitrogen residuals must be accounted for in future years. Nitrogen residual for each 1,000 gallons of swine manure is .34 lbs. for the second and third year based on frequent past applications (2-3 out of 5 years). Nitrogen residual for each ton of bio-solids is 3.6 lbs. for the second and third year. 3) Accurate records must be kept for DEQ.

This plan is phosphorus based and commercial fertilizer applications of phosphorus will be made using Virginia Tech VALUES recommendations based on current soil tests. This does not allow for any over application of phosphorus even in starter fertilizer applications over the amount specified by soil test recommendations.

This plan is based on the predominant soil types and their associated yield capabilities, crop rotation, soil tests and potential nitrogen loss found in each field. The associate yields were derived from the VALUES productivity system or actual yields from grower records (three out of five years). Credit is given for residual N derived from swine manure and bio-solids that have been applied and from legume crops. For the Nutrient Recommendation Summary and the individual field recommendations, please refer to the recommendation sheets provided.

Recommendations included in this plan focus on efficiency through timing and placement of nutrients in corn, soybean and vegetable production. Nitrogen will be split-applied on corn (broadcast and side-dress), with the side-dress application occurring after 350 GDUs (approximately 30 days after emergence). Split applications of fertilizer will be made on vegetables (at planting and at bloom).

Total application of N on Bermuda hay production should be divided equally between an early April application and applications made after the first and second harvests.

Where swine manure or biosolids are applied, phosphorus base manure application will be implemented if P applied exceeds crop removal. PSNT samples should be taken to measure the need for additional nitrogen. Manure and/or biosolids applications cannot be applied to recommended buffer areas (see *Amendment* sections). These buffer areas (wells, springs, surface water and/or sinkholes: dwellings, roadways, property lines, intermittent streams and/or drainage ditches) are identified on the USDA NRCS Soil Survey maps. Biosolids used on food crops with harvested parts that touch biosolids/soil mixture and are not totally above the land surface shall not be harvested for 14 months (i.e. watermelons and snap beans). Nutrient Management Plan Special Conditions for Nutrient Plans Developed for Biosolids and Swine Operations Applications are included in the *Amendment* sections of this Plan.

Potash recommendations will be made by field, based on soil tests for individual crops. In several instances, higher rates will be recommended above the Standards and Criteria Nutrient Needs Chart based on yield goals. In order to provide on-going accurate fertility recommendations, soil samples should be taken at a minimum of every three years.

Lime recommendations will be made using the most current soil samples provided. The operation will maintain optimum pH's based on soil samples and field liming histories.

Fields to be planted in cover-crops will be noted in the "Fields in Plan" section as being colored red. All cover crops are <u>not</u> legumes unless otherwise noted. If cover-crops are legumes, residual nitrogen will be taken into account when making fertility recommendations.

This is a three year plan. Annual updates to this plan may be required if changes occur within the cropping system.

Paul W. Bodenstine, C. P. Ag.
Agronomist

L. Preston Bryant, Jr.
Secretary of Natural Resources

Joseph H. Maroon
Director

COMMONWEALTH of VIRGINIA

DEPARTMENT OF CONSERVATION AND RECREATION

203 Governor Street, Suite 206
Richmond, Virginia 23219
Phone: (804) 786-2064 Fax: (804) 786-1798

January 18, 2007

Mr. Jimmy Babb
Southampton Department of Corrections
14545 Old Bellfield Road
Capron, VA 23829

Dear Mr. Babb,

Your revised nutrient management plan dated 12/20/2006 for a 2114 head swine operation located in Southampton County in Watershed CU42 has been approved by the Department of Conservation and Recreation for coverage under Virginia Pollution Abatement (VPA) permit number VPG100157.

It should be noted that this plan expires 12/20/2009. We recommend the process of revising this nutrient management plan begin at least six months prior to the expiration date.

A copy of this letter should be kept with your nutrient management plan and a copy of this letter and the plan must be sent to the Tidewater Regional Office of the Department of Environmental Quality.

If you have any questions concerning this letter, please feel free to contact me at (804) 371-6133 or e-mail seth.mullins@dcr.state.va.us.

Sincerely,

Seth Mullins
Nutrient Management Coordinator
Division of Soil and Water Conservation

cc: Mr. Russ Perkinson
Harry Dalton, DCR
Tidewater, DEQ

NUTRIENT MANAGEMENT PLAN NARRATIVE
SOUTHAMPTON CORRECTIONAL CENTER
Janurary 3, 2007

Southampton Correctional Center is owned and operated by Virginia Department of Corrections, and managed by Jimmy Babb, Farm Manager . The operation is located in Southampton County off Highway 308,Old Bellfield Road, and borders on Three Creek.

The operation contains a beef cattle operation with 331 acres of pasture and hay for an average of 500 head with average weight of 600 pounds , with feed and forage harvested on the farm. The former lagoon is now converted to a fresh water pond.

The operation also contains a swine operation at field 12 to include a 194 sows farrow to finish. This consists of a gestation house for 140 sows and 14 boars , a farrow house for 40 sows , a nursery for 720 pigs, and two finish houses for 1200 hogs. These facilities are recharge type that are drained to a sump pit where the manure is pumped to a slurrystore for storage and treatment. The facility pits are then recharged with effluent from the slurrystore. The operation will generate approximately 751,000 gallons annually to be land applied. The slurrystore will store 726,600 gallons or about a years storage. The effluent will be irrigated on cropland field 12 which is devoted to production of corn with wheat cover, and fields 7,30, 35, 45, 46, and 48 pasture/hay spread with a liquid manure spreader.

The farm also contains a biosolid operation. This consists of biosolids generated at this farm ,St. Brides and Dinwiddie Correction Centers treatment plants. The sludge is compressed, dewatered, and stored in concrete drying beds and storage areas which will be land applied to designated corn fields and incorporated. The operation generates approximately 300 tons of biosolids annually based on the operation records. These fields will not recieve swine nor other manures. Sufficient storage and land is available,

This plan was developed using actual soil tests,manure and biosolids tests, soil survey information, and the VALUES productivity system to determine nutrient requirements. The crops in the rotation may vary due to demand by the DOC system, weather, etc.

In order to achieve the full benefit of this plan, the following guidelines in the Special Conditions and other jobsheets will be followed.

This plan will be used for making nutrient application decisions which affect crop production and the environment. Further information for specific crops can be found on the following pages of the plan.

Technical assistance is available from :
Nutrient Management Specialist, DCR, 757-925-2469
Extension Service , 757-653-2527
USDA-NRCS, 757-634-2125
Chowan Basin SWCD, 757-634-2115

"ROGEN CREDIT FROM LEGUME RESIDUES:

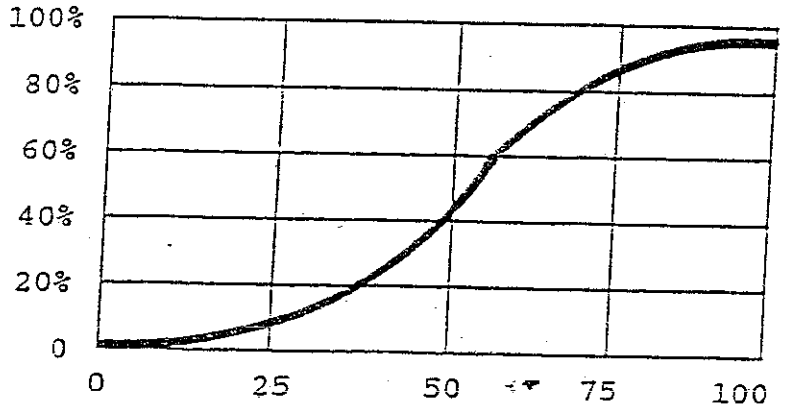
Legumes fix nitrogen from the air and can provide an organic source of nitrogen to subsequent crops. Legumes are slow releasers of Nitrogen; therefore care should be taken to provide for the nitrogen needs of the following crop early in the growing season. The amount of nitrogen provided is dependent on the quality of the legume stand when rotated to another crop. Use the following chart as guide for crediting nitrogen provided by legumes.

CROP	% STAND	DESCRIPTION	RESIDUAL N (LBS /AC)
Alfalfa	50 - 75	Good (>4 T/A)	90
	25 - 49	Fair (3-4 T/A)	70
	< 25	Poor (<3 T/A)	50
Red Clover	> 50	Good (>3 T/A)	80
	25-49	Fair (2-3 T/A)	60
	< 25	Poor (< 2 T/A)	40
Hairy Vetch	80-100	Good	100
	50-79	Fair	75
	< 50	Poor	50
Peanuts			45
Soybeans			1/2 lb N / bushel yield.

NITROGEN UPTAKE BY CORN:

During the first 25 day after emergence corn will utilize only 10% of its total nitrogen requirements. If all nitrogen is applied at planting, significant portions that are not utilized can be lost through leaching, surface runoff, soil erosion, and denitrification. By applying small amounts of nitrogen at planting followed by a larger amount when corn is 12 - 18 inches tall, better economic utilization occurs along with environmental benefits. By splitting nitrogen, corn can generally be grown on approximately one pound N per bushel yield. For the most efficient use of nitrogen, apply 25 - 40 pounds per acre banded near the row at planting with the balance of a pound / bushel sidedressed.

PERCENT NITROGEN UPTAKE BY CORN

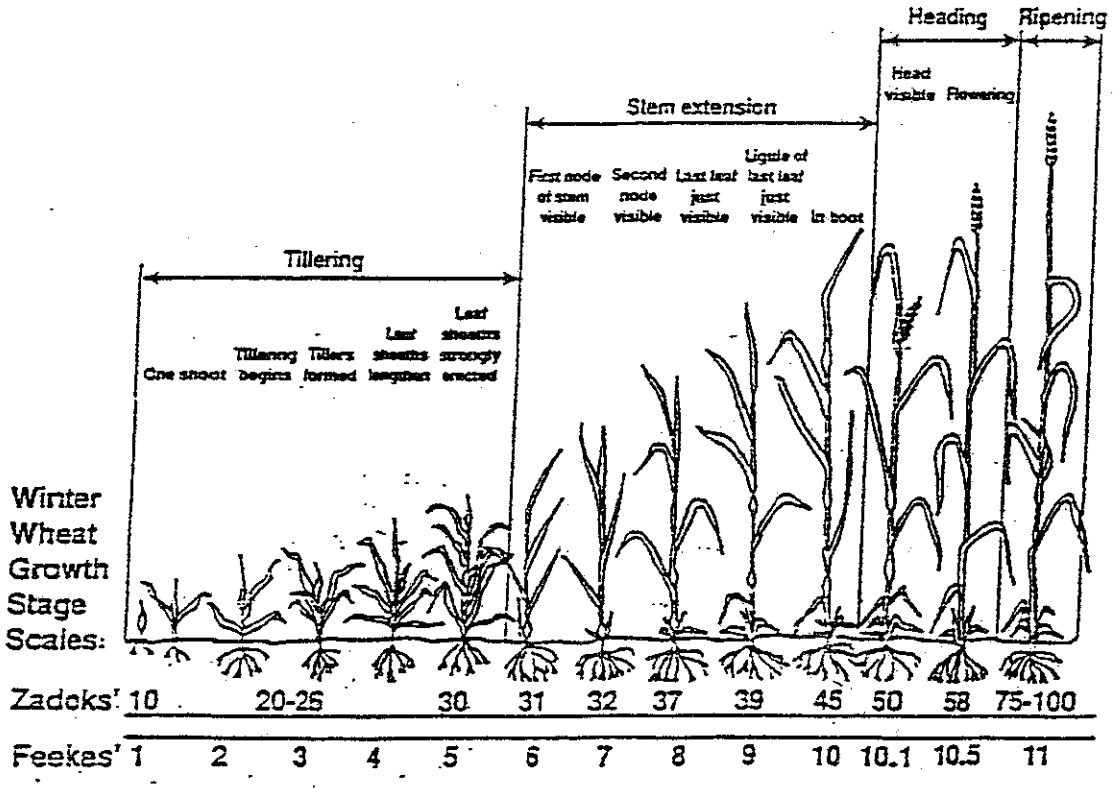


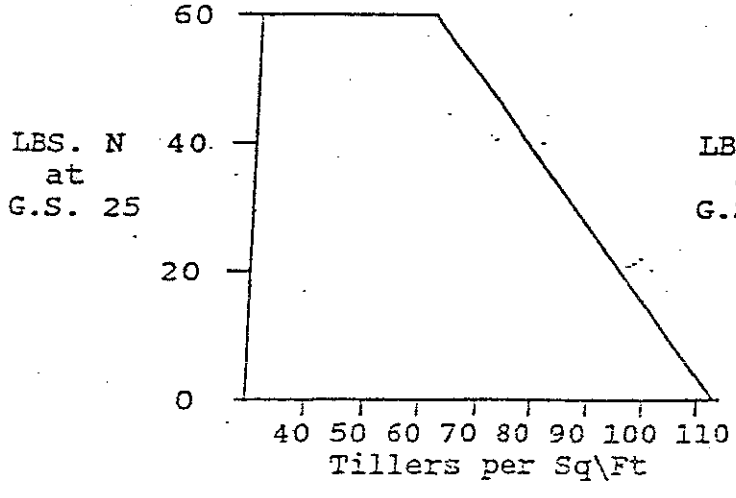
DAYS AFTER EMERGENCE

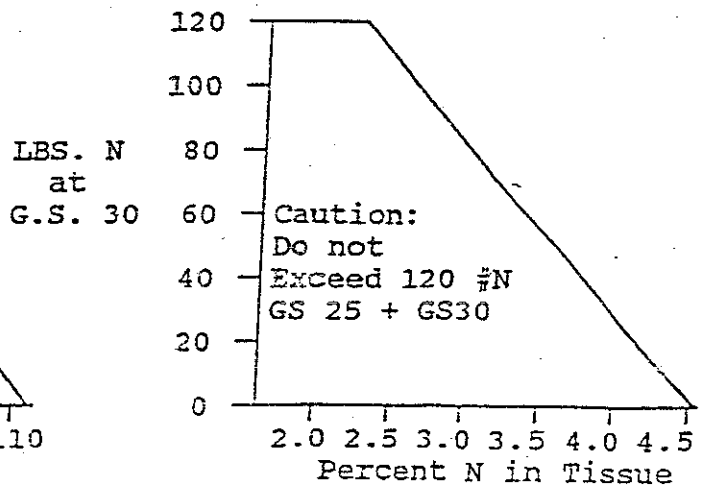
.ITROGEN MANAGEMENT in SMALL GRAIN:

Small Grain crops (wheat, barley, and rye) utilize small amounts of nitrogen in the fall. Uptake begins in late winter at the time of jointing. A soil nitrate test may be used at planting aid fall nitrogen application decisions. If nitrate levels are 10 ppm or less in with in 6 inches of the surface seedlings are likely to be deficient in nitrogen. An application of 20 - 30 pounds of nitrogen should be made. If soil nitrate levels are greater than 10 ppm nitrogen should be applied at a reduced rate (Consult Nutrient Management Specialist, or Extension Agent). If soil nitrate is greater than 30 ppm no fall nitrogen is necessary. In the absence of a nitrate sample assess the likelihood of residual nitrogen (i.e. following drought corn) and adjust rate accordingly.

Up to 80 pounds of nitrogen (120 with intensive management) may be applied in late winter to early spring. Soils with high leaching potential should not receive more than 60 pounds N per application. Use tiller counts at Growth Stage 25 and tissue samples at Growth Stage 30 to determine rate of application. Use the charts below as guidance for application rates.







Narrative (continued)

The farmer can make manure applications to fields in the plan that were not identified to receive manure applications if the following criteria are followed :

1) Manure applications can be made only if maximum rates per crop shown are not exceeded and applications are in accordance with the Special Conditions and manure spreading schedule.

Corn- 6K gals / ac

Pasture/hay- 6K gals / ac

2) Farmer must account for nutrients from applied manure towards the crop nutrient needs , balancing commercial fertilizer requirements . Do NOT exceed the nitrogen NOR phosphorus requirement for the crop identified as "crop nutrient needs". Nitrogen residuals must be accounted for in future years.

3) Accurate records must be kept for DEQ.

The nutrient value of each 1000 gallons is 5.2 lbs of plant available nitrogen, 4.2 lbs of phosphorus, and 8.6 lbs of potassium . Nitrogen residual for each 1000 gals of manure for the 1st,2nd, and 3rd year is 0.2 , 0.09 , and 0.04 pounds of nitrogen respectively.

Nutrient Management Plan Special Conditions for Virginia Pollution Abatement (VPA) and Virginia Pollutant Discharge Elimination System (VPDES) Permits

April 2006

The following management practices will be utilized for <u>swine operations</u> requiring a VPA or VPDES permit:

1. Soil samples for manure application fields will be analyzed at least once every three (3) years for pH, phosphorus, potassium, calcium, and magnesium in order to maximize the efficient utilization of nutrients. A representative soil sample of each field will be comprised of at least 20 cores randomly sampled throughout the field. Soil sampling core depth will be from 0 – 4 inches for land which has not been tilled within the past three years, or 0 – 6 inches for land that has been tilled within the past three years. Soil pH will be maintained at appropriate agronomic levels to promote optimum crop growth and nutrient utilization.

2. Soil test analysis will be performed by one of the laboratories listed below. Soil phosphorus levels must be determined using the Mehlich I or Mehlich III procedure.
   - A&L Agricultural Laboratories
   - Brookside Laboratories
   - Spectrum Analytical Laboratories
   - Virginia Tech Soil Testing Lab
   - Waters Agricultural Laboratories

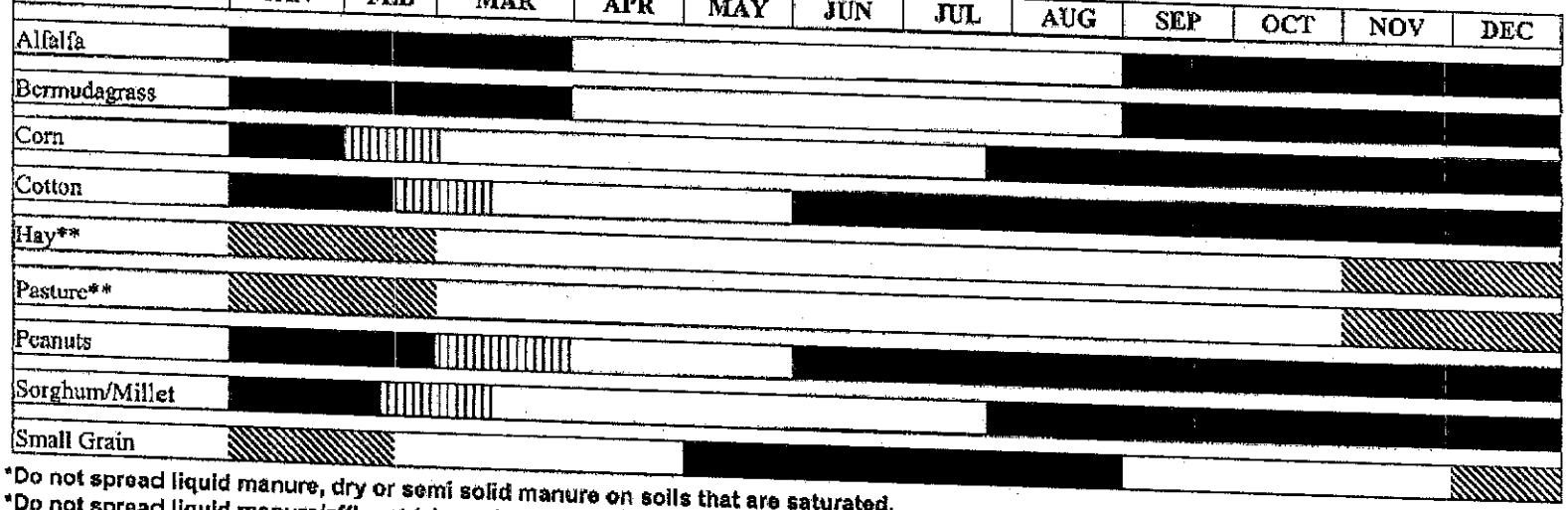
3. Representative manure samples will be analyzed at a minimum of once per year for VPA permits and twice per year for VPDES permits for the following: total nitrogen or total Kjeldahl nitrogen, ammonia-nitrogen, total phosphorus, total potassium, calcium, magnesium, and percent moisture. All manure analyses shall be performed using laboratory methods consistent with Recommended Methods of Manure Analysis, publication A3769, University of Wisconsin, 2003 or other methods approved by the Department of Conservation and Recreation. Manure analysis results will be used to determine actual manure rates that do not exceed the nitrogen and phosphorus application rates specified in the nutrient management plan using either the most recent manure analysis results (not greater than 1 year old) or the facilities average results based on actual manure analysis.

4. All crops will be planted and harvested in a timely manner using commercially acceptable management practices.

5. Make manure applications at or near planting or to existing actively growing crops to assure that nutrients are properly utilized. Utilize the spreading schedule contained in the nutrient management plan to determine appropriate manure application times and rates. Additional commercial fertilizer applications (especially nitrogen) should be made as a split application separate from the manure application, either as a sidedress or topdress application.

6. Manure spreading schedule.

SWINE MANURE SPREADING SCHEDULE*



*Do not spread liquid manure, dry or semi solid manure on soils that are saturated.

*Do not spread liquid manure/effluent (above 85.5% moisture content) to frozen, ice or snow covered ground.

*Application of dry or semi solid manure (85.5% moisture content or less) should be avoided on frozen, ice or snow covered ground. If necessary applications may be made to fields that have: (i) slopes not greater than 6.0%, (ii) 60% uniform ground cover from crop residue or an existing actively growing crop such as a small grain or tall fescue with an exposed plant height of ≥ 3", (iii) a minimum 200-foot vegetated or adequate crop residue buffer between the application area and all surface water courses, and (iv) soils characterized by USDA as "well drained".

** Cool season grasses only, Fescue and or Orchardgrass

Spread liquid manure and dry or semi solid manure at the rates and times specified in the nutrient management plan.

Do not spread liquid manure and dry or semi solid manure during these shaded months.

Manure applications will not be made earlier than 30 days prior to planting on environmentally sensitive sites.
On fields <u>not listed as environmentally sensitive</u>:

- Liquid manure applications will not occur more than 60 days prior to spring planting.

Manure applications are not recommended during this period (late fall-winter). If necessary uniformly apply a maximum of 3,000 gallons per acre per application. If using an irrigation system apply up to a maximum of a ¼ inch per acre per hour. Do not exceed 40 pounds of plant available nitrogen per acre during this entire period. Allow sufficient drying time between applications. Fields must have greater than 60% uniform live cover with plant height greater than three (3) inches.

For permanent hay or pasture, an adequate stand of hay and/or pasture crop species will be established prior to land application of manure. Commercially acceptable stands of the listed species will be maintained and other weeds and grasses controlled. All hay crops will be harvested in a timely and regular manner, removed from fields, and utilized for a suitable purpose.

6. Manure will be applied to application sites in a uniform manner.

7. Do not spread manure within the following setback areas:
   - 100 feet from wells or springs
   - 35 feet from surface waters if the entire setback is a permanent perennial vegetated buffer

     OR

     100 feet from surface waters if there is not a permanent perennial vegetated buffer of at least 35 feet in width
   - 50 feet from sinkholes*
   - 50 feet from limestone rock outcrops
   - 25 feet from other rock outcrops
   - 10 feet from agricultural drainage ditches (5 feet if injected)
   - 200 feet from occupied dwellings (unless waived in writing by the occupant)

* Waste shall not be applied in areas subject to concentrated flow generated by runoff from storm events such that it would discharge into sinkholes in the area.

8. To avoid manure runoff from application fields.*

   Do not spread manure on soils that are saturated.
   Do not apply liquid manure (above 85.5% moisture content) or commercial fertilizers to frozen, ice or snow covered ground.

   * If runoff is observed, reduce the application rate immediately to prevent overland flow,
   which reaches buffer areas or accumulates in low-lying areas.

9. For odor control and to reduce drift, avoid spreading on windy days.

10. Liquid irrigation systems will be operated in a manner to prevent runoff into buffered areas and low-lying areas. Use a liquid application rate at or below the specified maximum hydraulic application rate for each field per application. Traveling guns used for irrigation of effluent should be operated in a full circle pattern whenever possible to allow for maximum infiltration. A small wedge shaped area may be left dry ahead of the gun to reduce soil compaction.

11. Spreader calibration is extremely critical to ensure proper application rates. Calibration of equipment or verification of actual equipment application rates shall occur at a minimum of once per year.

12. New waste storage facilities shall be designed, constructed and operated in accordance with the USDA-NRCS Field Office Technical Guide and other appropriate NRCS design criteria.

Earthen waste storage structures must be regularly inspected and repaired if leaks, slope failures, excessive embankment settlement, eroded banks, or burrowing animals are detected. A protective cover of appropriate vegetation will be established and maintained on all disturbed areas (lagoon & storage pit embankments, berms, pipe runs, etc.). Vegetation such as trees, shrubs, and other woody species are limited to areas considered to be appropriate such as wind breaks or visual screens, and are not to be present on lagoon & storage pit embankments, berms, pipe runs, or hay and pasture fields.

13. New lagoons will be charged to at least ½ of treatment volume capacity with water prior to placement of hogs into production facilities in order to promote biological treatment activity and reduce odor. When charging lagoons, carefully manage the rate of the water input to avoid damage to lagoon liners.

14. For operations with anaerobic lagoons, pumping shall be managed to maintain the lagoon level between the maximum and minimum operating level. The lagoon level shall be pumped to near the minimum operating level in preparation for the late fall-winter period. The effluent removed shall be uniformly applied, to the designated fields in the nutrient management plan, at or below the maximum rate specified in the nutrient management plan. Visible markers or another practical method shall be used in new lagoons to indicate the minimum operating level and the maximum operating level based on the lagoon design specifications.

15. Waste discharge from inlet pipe(s) must not have direct contact with clay liner, in order to avoid erosion of the liner. The discharge line(s) must extend past the minimum operating level such that lagoon influent will discharge over the water surface.

16. Waste handling structures, piping, pumps, etc. should be inspected on a regular basis to prevent breakdowns, leaks, and spills.

17. Composting of animal mortalities will be conducted in accordance with the latest guidance developed by Virginia Cooperative Extension.

18. Any facility required in the General Permit to monitor groundwater, shall monitor groundwater for the following parameters at a frequency of at least once annually: Static Water Level, Ammonia Nitrogen, Nitrate Nitrogen, pH, and Conductivity.

19. Nutrient management plans that contain fields in which row crops will be grown, will be revised at least once every three (3) years. Nutrient management plans that contain only hay or pasture fields will be revised at least once every five (5) years. Any such plan revisions will be submitted to DCR for review and approval.

20. This nutrient management plan must be amended or modified if: animal numbers increase above the level specified in the plan; animal types including intended market weights are changed; additional imported manure, biosolids, or industrial waste that was not identified in the existing plan is applied to fields under the

NUTRIENT MANAGEMENT PLAN NARRATIVE
SOUTHAMPTON CORRECTIONAL CENTER
October 3, 2005

Southampton Correctional Center is owned and operated by Virginia Department of Corrections, and managed by Jimmy Babb(farm). The operation is located in Southampton County off Highway 308 and borders on Three Creek.

The operation contains a beef cattle operation with 377 acres of pasture and hay for 400-600 head with average weight of 600 lbs, with feed and forage harvested on the farm. The former lagoon is now converted to a fresh water pond.

The operation also contains a swine operation at field 12 to include a 255 sows farrow to finish. This consists of a gestation house for 215 sows and 14 boars, a farrow house for 40 sows, a nursery for 720 pigs, and two finish houses for 1200 hogs. These facilities are recharge type that are drained to a sump pit where the manure is pumped to a slurrystore for storage and treatment. The facility pits are then recharged with recycled effluent from the slurrystore. The operation will generate approximately 800,000 gallons annually to be land applied. The slurrystore will store 726,600 gallons or about a years storage. The effluent will be irrigated on cropland fields 12 and 19 which are devoted to production of corn with wheat cover, and, field 7, 35, and 38 pasture/hay spread with a liguid manure spreader.

The farm also contains a biosolid operation. This consists of biosolids generated at this farm, St. Brides and Dinwiddie Correction Centers treatment plants. The sludge is compressed, dewatered, and stored in concrete drying beds and storage areas which will then be land applied to designated corn fields and incorporated. The operation generates approximately 600 tons of biosolids annually based on the operation records. These fields will not recieve swine nor other manures. Sufficient storage is available.

This plan was developed using actual soil tests, manure and biosolids tests. soil survey information, and the VALUES productivity system to determine nutrient requirements. The crops in the rotation may vary due to demand by the DOC System, weather, etc.

In order to achieve the full benefit of this plan, the following guidelines in the Special Conditions and other jobsheets will be followed.

This Plan will be used for making nutrient application decisionns which affect crop production and the environment. Further information for specific crops can be found on the following pages of the plan.

Technical assistance is available from :
Nutrient Management Specialist, DCR, 757- 925-2569
Extension Service, 757-653-2527
USDA-NRCS, 757-634-2125
Chowan Basin SWCD, 757-634-2115

NITROGEN CREDIT FROM LEGUME RESIDUES:

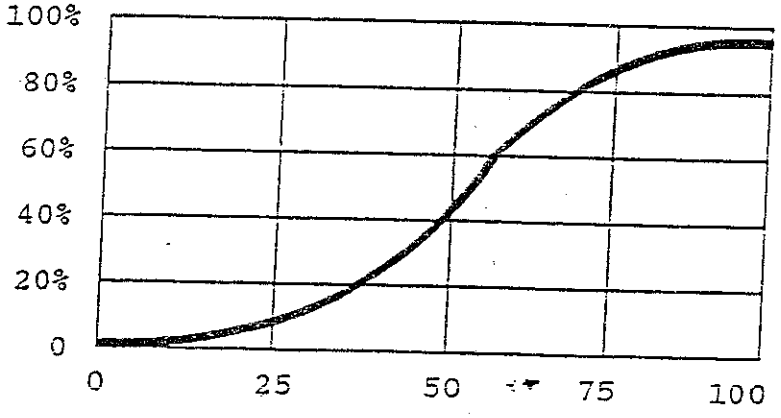
Legumes fix nitrogen from the air and can provide an organic source of nitrogen to subsequent crops. Legumes are slow releasers of Nitrogen; therefore care should be taken to provide for the nitrogen needs of the following crop early in the growing season. The amount of nitrogen provided is dependent on the quality of the legume stand when rotated to another crop. Use the following chart as guide for crediting nitrogen provided by legumes.

CROP	% STAND	DESCRIPTION	RESIDUAL N (LBS /AC)
Alfalfa	50 - 75	Good (>4 T/A)	90
	25 - 49	Fair (3-4 T/A)	70
	< 25	Poor (<3 T/A)	50
Red Clover	> 50	Good (>3 T/A)	80
	25-49	Fair (2-3 T/A)	60
	< 25	Poor (< 2 T/A)	40
Hairy Vetch	80-100	Good	100
	50-79	Fair	75
	< 50	Poor	50
Peanuts			45
Soybeans			1/2 lb N / bushel yield.

NITROGEN UPTAKE BY CORN:

During the first 25 day after emergence corn will utilize only 10% of its total nitrogen requirements. If all nitrogen is applied at planting, significant portions that are not utilized can be lost through leaching, surface runoff, soil erosion, and denitrification. By applying small amounts of nitrogen at planting followed by a larger amount when corn is 12 - 18 inches tall, better economic utilization occurs along with environmental benefits. By splitting nitrogen, corn can generally be grown on approximately one pound N per bushel yield. For the most efficient use of nitrogen, apply 25 - 40 pounds per acre banded near the row at planting with the balance of a pound / bushel sidedressed.

PERCENT NITROGEN UPTAKE BY CORN

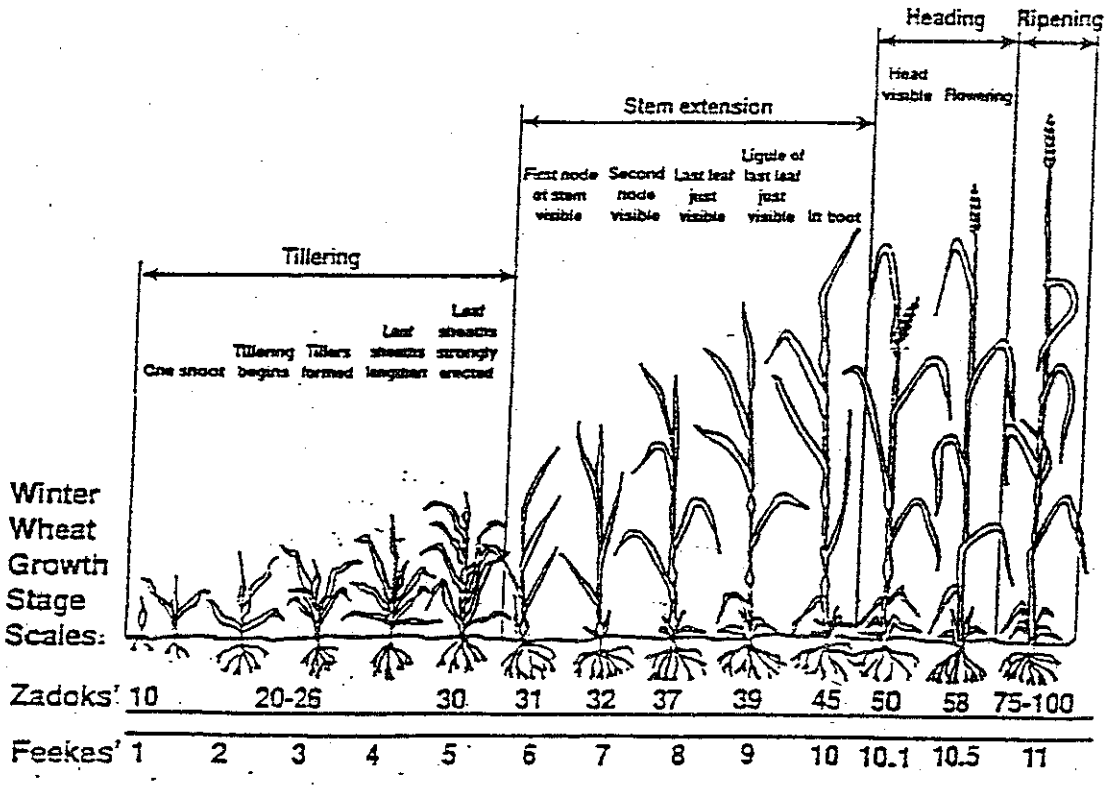


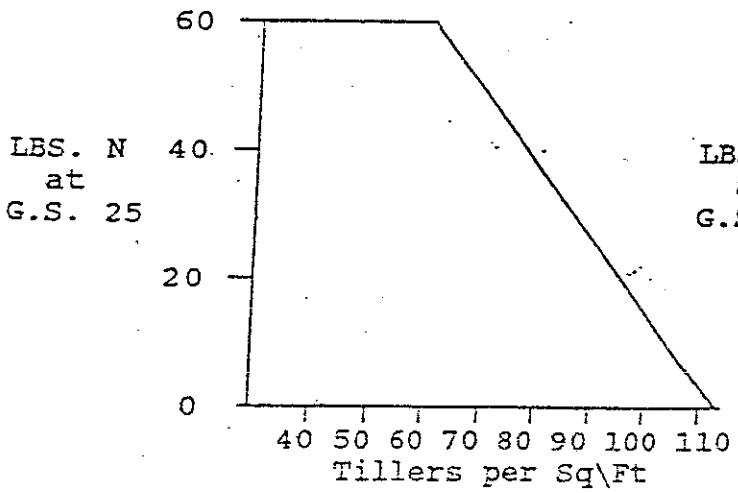
DAYS AFTER EMERGENCE

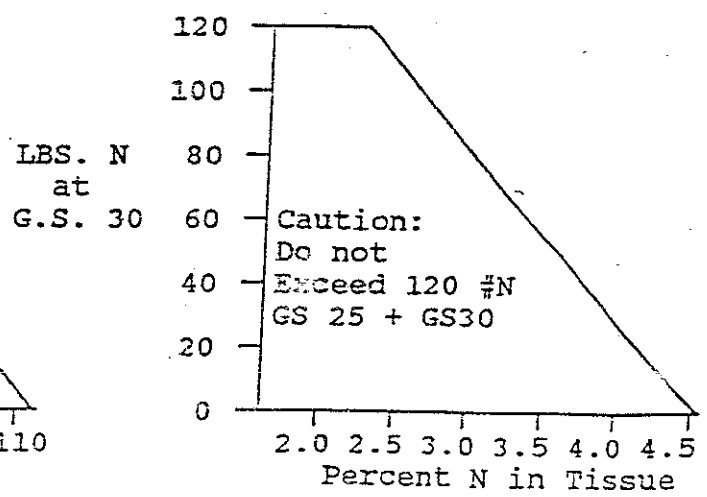
.ITROGEN MANAGEMENT in SMALL GRAIN:

Small Grain crops (wheat, barley, and rye) utilize small amounts of nitrogen in the fall. Uptake begins in late winter at the time of jointing. A soil nitrate test may be used at planting aid fall nitrogen application decisions. If nitrate levels are 10 ppm or less in with in 6 inches of the surface seedlings are likely to be deficient in nitrogen. An application of 20 - 30 pounds of nitrogen should be made. If soil nitrate levels are greater than 10 ppm nitrogen should be applied at a reduced rate (Consult Nutrient Management Specialist, or Extension Agent). If soil nitrate is greater than 30 ppm no fall nitrogen is necessary. In the absence of a nitrate sample assess the likelihood of residual nitrogen (i.e. following drought corn) and adjust rate accordingly.

Up to 80 pounds of nitrogen (120 with intensive management) may be applied in late winter to early spring. Soils with high leaching potential should not receive more than 60 pounds N per application. Use tiller counts at Growth Stage 25 and tissue samples at Growth Stage 30 to determine rate of application. Use the charts below as guidance for application rates.







Nutrient Management Plan Special Conditions for Virginia Pollution Abatement (VPA) Permits

January 2001

The following management practices will be utilized for <u>dairy/beef/swine operations</u> requiring a VPA permit:

1. Soil samples for manure application fields will be analyzed at least once every three (3) years for pH, phosphorus, potassium, calcium, and magnesium in order to maximize the efficient utilization of nutrients. A representative soil sample of each field will be comprised of at least 20 cores randomly sampled throughout the field. Soil sampling core depth will be from 2 - 4 inches for land that is not tilled, or 6 - 8 inches for land that has been tilled within the past three years. Soil pH will be maintained at appropriate agronomic levels to promote optimum crop growth and nutrient utilization.

2. Soil nitrate test for manure application fields planted in corn or small grain will be analyzed at least once every three (3) years. A representative soil sample of each field will be comprised of at least 20 cores randomly sampled throughout the field at the time appropriate for that crop. Soil sampling core depth should be at a depth of 12 inches for corn and 6 inches for small grain.

3. Representative manure samples will be analyzed at a minimum of once per year in the spring for TKN, ammonia-nitrogen, total phosphorus, total potassium, calcium, magnesium, and percent moisture. For farm operations with at least 700 dairy cattle, 1,000 beef cattle manure samples are required at least twice per year, to be collected in approximately April and August. Manure analysis results will be used to determine actual manure rates to achieve the nitrogen application rates specified in the nutrient management plan using either the most recent manure analysis results (not greater than 1 year old) or the facilities average results based on actual manure analysis.

4. Manure will be applied to application sites in a uniform manner.

5. Liquid irrigation systems will be operated in a manner to prevent runoff into buffered areas and low-lying areas. Use a liquid application rate at or below the specified maximum application rate for each field per application. Traveling guns used for irrigation of effluent should be operated in a <u>full circle pattern</u> whenever possible to allow for maximum infiltration. A small wedge shaped area may be left dry ahead of the gun to reduce soil compaction.

6. To avoid manure runoff from application fields.*

   - Do not spread manure on soils that are saturated.
   - Do not apply liquid manure (above 85.5% moisture content) to frozen, ice or snow covered ground.

   * If runoff is observed, reduce the application rate immediately to prevent overland flow, which reaches buffer areas or accumulates in low-lying areas.

7. Make manure applications at or near planting (within 30 days) or to existing actively growing crops to assure that nutrients are properly utilized. Utilize the spreading schedule contained in the nutrient management plan to determine appropriate manure application times and rates. Additional commercial fertilizer applications (especially nitrogen) should be made as a split application from the manure application, either as a sidedress or topdress application.

NUTRIENT MANAGEMENT FIELD RECORD SHEET

Field Name: [illegible] Field Number: 19 Tract Name: DOC Tract Number: 75657 Acres: 60

Crop Name: Corn - Rye Planting Date: _____ Harvest Date: _____ Yield (Yield/A): _____

Manure/Biosolids Source[1], Application Rate, and Time of Year From Job Sheet: _____

Manure\Biosolids Application						Fertilizer/Lime	
Date	Incorporation[2] Time	Acres Applied	Number of loads	Amount /load	Actual Rate/acre	Date	Type/Rate/A
3-14-08	Disk	60	96	3600	5799 gal		

Crop Name: _____ Planting Date: _____ Harvest Date: _____ Yield (Yield/A): _____

Manure/Biosolids Source[1], Application Rate, and Time of Year From Job Sheet: _____

Manure\Biosolids Application						Fertilizer/Lime	
Date	Incorporation[2] Time	Acres Applied	Number of loads	Amount /load	Actual Rate/acre	Date	Type/Rate/A

Verification of Rate/Acre ((Amount/load x Number of loads)/acres applied = rate/acre) and adjustment notes:

NUTRIENT MANAGEMENT FIELD RECORD SHEET

Field Name: Across from feedmill 30 Field Number: 11 Tract Name: DOC Tract Number: T25657 Acres:

Crop Name: Soybeans Planting Date: Harvest Date: Yield (Yield/A):

Manure/Biosolids Source[1], Application Rate, and Time of Year From Job Sheet:

Manure\Biosolids Application						Fertilizer/Lime	
Date	Incorporation[2] Time	Acres Applied	Number of loads	Amount /load	Actual Dry Rate/acre	Date	Type/Rate/A
28th 30	Disk	16	29	14,800	5768/A		

Crop Name: Planting Date: Harvest Date: Yield (Yield/A):

Manure/Biosolids Source[1], Application Rate, and Time of Year From Job Sheet:

Manure\Biosolids Application						Fertilizer/Lime	
Date	Incorporation[2] Time	Acres Applied	Number of loads	Amount /load	Actual Rate/acre	Date	Type/Rate/A

Verification of Rate/Acre {(Amount/load x Number of loads)/acres applied = rate/acre} and adjustment notes:

NUTRIENT MANAGEMENT FIELD RECORD SHEET

Field Name: Across Road from Feedmill 308 Field Number: 11526 Tract Name: DOC Tract Number: 705657 Acres: 120

Crop Name: CORN 120A Planting Date: _____ Harvest Date: _____ Yield (Yield/A): _____

Manure/Biosolids Source[1], Application Rate, and Time of Year From Job Sheet: _____

Manure\Biosolids Application						Fertilizer/Lime	
Date	Incorporation[2] Time	Acres Applied	Number of loads	Amount /load	Actual Rate/acre	Date	Type/Rate/A
3-18-03 3-17-03	Disk 3-17-03 - 3-18-03	28.5	26	8900#	8000#	11-18-03	Applied 1/2 Ton 11A
6-23-03 6-24-03	Disk 6-23-03 6-24-03	25	24	8900#	8500#		
3-25-04 3-26-04	Disk 3-25-04 3-26-04	25 center	25	8900#	8900#	→	99.33 Metric Tons
5-11-04 5-12-04	Disk 5-11-04 5-12-04	28 corner's	25	8900#	7946#		111.25 Metric Tons
3-22-05 3-25-05	Disk 3-22-05 3-25-05	38	36	9800#	9300#		
4-9-07 4-13-07	Disk	65	41	17,040	5.37 Tons		

Crop Name: _____ Planting Date: _____ Harvest Date: _____ Yield (Yield/A): _____

Manure/Biosolids Source[1], Application Rate, and Time of Year From Job Sheet: _____

Manure\Biosolids Application						Fertilizer/Lime	
Date	Incorporation[2] Time	Acres Applied	Number of loads	Amount /load	Actual Rate/acre	Date	Type/Rate/A
~~4-9-07 4-13-07~~	~~Disk~~	~~65~~					
4-4-08	Disk	18		17,800	2.47 Tons		
9-23-08	Disk	24 Acres	28	17,800	1.33 Tons		

Verification of Rate/Acre ((Amount/load x Number of loads)/acres applied = rate/acre) and adjustment notes:

NUTRIENT MANAGEMENT FIELD RECORD SHEET

Field Name: Right on Morden Rd Field Number: 215 Tract Name: DOC Tract Number: T25657 Acres: 20

Crop Name: _____ Planting Date: _____ Harvest Date: _____ Yield (Yield/A): _____

Manure/Biosolids Source[1], Application Rate, and Time of Year From Job Sheet: _____

Manure\Biosolids Application						Fertilizer/Lime	
Date	Incorporation[2] Time	Acres Applied	Number of loads	Amount /load	Actual Rate/acre	Date	Type/Rate/A
5/24+25-21	2 hrs/Disced	20	21	9600	10,080		
4-27-06	Disk	20	13	16500	10725		
5-3rd-10	Disk	20	33	13200	7,400 lb/A		

Crop Name: _____ Planting Date: _____ Harvest Date: _____ Yield (Yield/A): _____

Manure/Biosolids Source[1], Application Rate, and Time of Year From Job Sheet: _____

Manure\Biosolids Application						Fertilizer/Lime	
Date	Incorporation[2] Time	Acres Applied	Number of loads	Amount /load	Actual Rate/acre	Date	Type/Rate/A

Verification of Rate/Acre ((Amount/load x Number of loads)/acres applied = rate/acre) and adjustment notes:

Nutrient Management Job Sheet

Name: Southampton Correctional Center Tract #: Farm 000 Pasture-Hay Tract County: Southampton

Tract	Field	Acres	Crop Rotation	Nutrient Needs N-P-K	Manure Gallons /Acre	Manure N-P-K /Acre	Other Sources N-P-K	N - P - K Balance	Commercial N - P - K	*
Past-ures	31	13	Pasture-Hay	120-0-100	13,575 (.5 inch lagoon) or 6000 g. slurry store	94-164-257	0-0-0	26-(164)-(157)	26-0-0	1
	32	18								
	34	35								
	35	25				82-178-109	0-0-0	37-(178)-(9)	37-0-0	
	36	7								
	37	40								
	38	14				0-0-0	0-0-0	120-0-100	60-0-100 spring 60-0-0 Aug.	2
	39	20		120-0-100	0-0-0					
	40	18								
	41	8								
	42	20								
	44	22								
	45	18								
	46	7								
	47	6								
	48	6								
	49	4								
	51	25								
	Prod 1,2									

*Notes:

1. Apply .25 inch effluent from cattle lagoon in spring and .25 inch in Aug. for stock pilin fescue for a total of .5 inch per year of effluent. When hay is harvested, may apply 80- after each cutting. Apply 6000 gals. of effluent from slurrystore split in spring and ea fall if need to pump.

2. With no manure application, apply N and K2O in spring, and 60 lbs. N in Aug. for stockpil When hay is harvested, apply 80 lbs. N after each cutting but do not exceed 250 lbs/ac of per year.

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Nutrient Management Job Sheet

Name: Southampton Correctional Center Tract #: Cropland County: Southamptor

Tract	Field	Acres	Crop Rotation	Nutrient Needs N-P-K	Manure Gallons /Acre	Manure N-P-K /Acre	Other Sources N-P-K	N - P - K Balance	Commercial N - P - K	*
Crop-land	11	44	Corn/Grain (rye cover)	190-0-80 (irrigated)	10,860 (.4")	150-323-197	29-0-0 residual	11-(323)-(117)	0-0-0	1A
	12	40			0	0-0-0	0-0-0	190-0-80	40-0-80 150-0-0	
	18	27								
	19	50								
	26	75								
	28	8	Corn/silage (rye cover)	190-0-160 (irrigated)	10,860 (.4")	150-323-197	29-0-0 residual	11-(323)-(37)	0-0-0	1A
	21	25			0	0-0-0	0-0-0	190-0-160	40-0-160 150-0-0	
	Prod 1									
			Sorghum (rye cover)	70-0-90	0	0-0-0	0-0-0	70-0-90	30-0-90 40-0-0	2
	2	3	Corn/Grain (rye cover)	140-30-80	0	0-0-0	0-0-0	140-30-80	40-30-80 100-0-0	1
	5	17								
	8	30								
	9	8	Corn/Silage (rye cover)	140-20-160	0	0-0-0	0-0-0	140-20-160	40-20-160 100-0-0	
	20	9								
	22	10								
	30	20	Sorghum (rye cover)	70-40-90	0	0-0-0	0-0-0	70-40-90	30-40-90 40-0-0	
	Prod 2									

*Notes:

1A. Based on clean water irrigation. Apply effluent from slurrystore at planting or early grow stage. If no manure is used, apply 40 lbs. of N along with K at planting and sidedress balance of N at 12-18 inch stage; same for item 1. Use soil N test at 12-18 inches high.

2. Apply 30 lbs. N and K2O at planting; apply balance of N at 12 inches high. (Sudex)

3. For potatoes, apply 50 lbs. of N along with P and K at planting; sidedress balance of N 4-weeks after planting.

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Nutrient Management Job Sheet

Name: Southampton Correctional Center Tract #: Cropland County: Southampton

Tract	Field	Acres	Crop Rotation	Nutrient Needs N-P-K	Manure Gallons /Acre	Manure N-P-K /Acre	Other Sources N-P-K	N - P - K Balance	Commercial N - P - K	*
Crop-land	3 6 13 15 23 25 27 Prod 3	25 4 77 58 5 12 12	Corn/Grain (rye cover)	130-0-80	0	0-0-0	0-0-0	130-0-80	40-0-80 90-0-0	1
			Corn/silage (rye cover)	130-0-160	0	0-0-0	0-0-0	130-0-160	40-0-160 90-0-0	1
			Sorghum (rye cover)	70-0-90	0	0-0-0	0-0-0	70-0-90	30-0-90 40-0-0	2
			Potatoes	150-50-200	0	0-0-0	0-0-0	150-50-200	50-50-200 100-0-0	1
	7 14 17 24 Prod 4	17 20 2 2	Corn/Grain (rye cover)	110-0-60	0	0-0-0	0-0-0	110-0-60	40-0-60 70-0-0	
			Corn/Silage (rye cover)	110-0-120	0	0-0-0	0-0-0	110-0-120	40-0-120 70-0-0	
			Sorghum (rye cover)	70-0-80	0	0-0-0	0-0-0	70-0-80	30-0-80 40-0-0	
			Potatoes	150-50-200	0	0-0-0	0-0-0	150-50-200	50-50-200 100-0-0	
	10 16 Prod 5	20 10	Corn/Grain (rye cover)	85-0-60	0	0-0-0	0-0-0	85-0-60	40-0-60 45-0-0	
			Corn/Silage (rye cover)	85-0-120	0	0-0-0	0-0-0	85-0-120	40-0-120 45-0-0	
			Sorghum (rye cover)	70-0-80	0	0-0-0	0-0-0	70-0-80	30-0-80 40-0-0	

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MANURE SPREADING SCHEDULE
Southampton Correctional Center

CROP	ACRES	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	GALLONS PER ACRE	TOTAL USED
ASS HAY AND/OR ASTURE	330				6800 gal./ac			6800 gal./ac						13600gal./ac From Beef Lagoon	607300 gals./yr.
rn/Sorghum	576				10860 gals./ac									10800 gals./ac From Slurrystore	1102400 gals./yr

is spreading schedule represents potential manure utilization.

not spread during shaded months.

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Attachment A Nutrient Management Plan Narrative

The following management practices will be utilized for farms requiring an intensified Virginia Pollution Abatement (VPA) permit:

1. Soil samples for manure application fields will be analyzed at least once every three (3) years for pH, phosphorus, potassium, calcium, magnesium, and nitrate-nitrogen in order to maximize the efficient utilization of nutrients. The soil nitrate test should be taken at a depth of 12 inches for corn and 6 inches for small grain. Soil pH will be maintained at appropriate levels to promote optimum crop growth and nutrient utilization.

2. Manure samples will be analyzed a minimum of once per year in the spring for TKN, ammonia-nitrogen, total phosphorus, total potassium, calcium, magnesium, and percent moisture. Manure analysis results will be used to determine actual manure application rates to achieve the nitrogen application rates specified in the nutrient management plan using either the most recent results or the facilities long-term average results.

3. Spreader calibration is extremely critical to ensure proper application rates. Calibration of equipment should occur during major clean outs of the storage facility or twice a year.

4. Utilize the spreading schedule contained in the nutrient management plan to determine appropriate manure application times. To avoid manure runoff from application fields, do not spread manure on soils which are saturated, ice or snow covered, or frozen except in emergency situations due to storage system freeze-ups. If storage system freeze-ups necessitate land application of manure, select fields which are relatively level with slope less than five (5) percent and are planted in cover crops or have significant crop residue.

5. Do not spread manure within the following buffer areas:
   - 100 feet from wells or springs
   - 50 feet from surface waters (25 feet if injected or incorporated)
   - 50 feet from sinkholes
   - 50 feet from limestone rock outcrops
   - 25 feet from other rock outcrops
   - 10 feet from agricultural drainage ditches (5 feet if injected or incorporated)
   - 200 feet from occupied dwellings (unless waived in writing by the occupant)

6. For odor control and to reduce drift, avoid spreading on windy days.

7. This nutrient management plan is void if livestock numbers (dairy, swine, poultry, etc.) are above the level specified in the nutrient management plan.

8. This nutrient management plan will be updated at least once every three years.

9. For operations having anaerobic lagoons: Prior to removing sludge from lagoons, at least 60 days prior to removal and land application, sludge samples will be analyzed for TKN, ammonia-nitrogen, total phosphorus, total potassium, calcium, magnesium, and percent moisture. A nutrient management plan will be developed and submitted to the Department of Conservation and Recreation for review and approval. The nutrient management plan submitted must contain adequate land suitable for environmentally sound land application of the sludge.

Southampton Correctional Center

Southampton Correctional Center is owned and operated by Virginia Department of Corrections. The farm is located in Southampton County off Hwy 308, 652, and 612 and borders on Three Creek.

The farm contains a beef cattle operation with 340 acres of pasture for 170-180 brood cows with calves. Approximately 300 head are finished per year with feed and forage harvested on the farm. The finish cows are confined to a concrete floor partly roofed. The manure is flushed to an anaerobic lagoon planned and designed by SCS for 180 day storage with 607,315 gallons of effluent produced and land applied annually to cropland (corn) and pastureland fields between Hwy 652 and the railroad. The nutrient value of the manure is approximately $4,700 per year.

The farm also contains a swine operation located at the headquarters area which will be phased out. A new operation is proposed at field 12 to include a 255 sows, farrow to finish. This will consist of a gestation house for 215 sows and 10 boars, a farrow house for 40 sows, a nursery for 600 pigs and three finish houses for 1800 hogs. These facillities will be recharge type that will be drained each two weeks to a sump pit where the manure will be pumped to a slurrystore tank for storage and treatment. The facility pits will then be recharged with 6 inches of recycled effluent from the slurrystore with some fresh water being used initially. The operation will generate approximately 1,100,000 gallons of manure annually to be land applied. The slurrystore will store 726,600 gallons, therefore will afford approximately 240 days storage. The effluent will be irrigated on cropland fields 11, 12, 19, 21, and 26 which are devoted to production of corn for grain or silage, and some sorghum followed by winter rye cover. These fields are also irrigated with clean water when needed. The nutrient value of the manure is approximately $15,300 per year.

This plan was developed using actual soil tests, average manure samples, soil survey samples, soil survey information, and the VALUES productivity system to determine nutrient requirements.

In order to achieve the full benefit of this plan the following guidelines in Attachment A will be followed.

The above operations will require a VPA permit fromthe D.E.Q. which will be applied for by D.O.C. This Nutrient Management Plan is intended as a guide for assist-ing fertilizer application decisions which affect crop production and the environment. Further information for specific crops can be found on the following pages of this narrative and job sheets.

Technical assistance is available from:

Harry Dalton, Nutrient Management Specialist, VADCR-DSWC, 804-925-2469
Wes Alexander, Extension Agent, Southampton County, 804-653-2527
Alvin Phelps, District Conservationist, USDA-SCS, 804-634-2115
Keith Dunn, J. R. Horsley SWCD, 804-634-2115

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NITROGEN CREDIT FROM LEGUME RESIDUES:

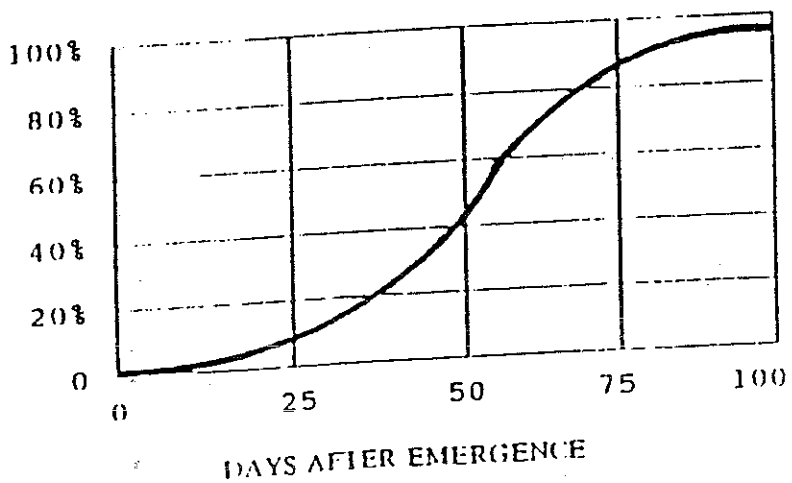
Legumes fix nitrogen from the air and can provide an organic source of nitrogen to subsequent crops. Legumes are slow releasers of Nitrogen; therefore care should be taken to provide for the nitrogen needs of the following crop early in the growing season. The amount of nitrogen provided is dependent on the quality of the legume stand when rotated to another crop. Use the following chart as guide for crediting nitrogen provided by legumes.

CROP	% STAND	DESCRIPTION	RESIDUAL N (LBS /AC)
Alfalfa	50 - 75	Good (>4 T/A)	90
	25 - 49	Fair (3-4 T/A)	70
	< 25	Poor (<3 T/A)	50
Red Clover	> 50	Good (>3 T/A)	80
	25 49	Fair (2-3 T/A)	60
	< 25	Poor (< 2 T/A)	40
Hairy Vetch	80 100	Good	100
	50 79	Fair	75
	< 50	Poor	50
Peanuts			45
Soybeans			1/2 lb N / bushel yield.

NITROGEN UPTAKE BY CORN:

During the first 25 day after emergence corn will utilize only 10% of its total nitrogen requirements. If all nitrogen is applied at planting, significant portions that are not utilized can be lost through leaching, surface runoff, soil erosion, and denitrification. By applying small amounts of nitrogen at planting followed by a larger amount when corn is 12 - 18 inches tall, better economic utilization occurs along with environmental benefits. By splitting nitrogen, corn can generally be grown on approximately one pound N per bushel yield. For the most efficient use of nitrogen, apply 25 - 40 pounds per acre banded near the row at planting with the balance of a pound / bushel sidedressed.

PERCENT NITROGEN UPTAKE BY CORN



SOIL TEST INFORMATION

Name: Southampton Correctional Center

Sample Year: 1991

Tract	Field #	Soil pH	P205 lb/a	VA TECH	K lb/A	VA TECH	PROD. GROUP	SOIL
Farm Pasture	31	6.8	120	VH	119	M	2	7
	32	6.7	106	H+	196	H-	1	13
	34	6.6	113	VH	132	M	1	10
	35	6.6	93	H+	75	L+	2	7
	36	6.8	110	H+	34	L	2	169
	37	6.1	79	H	88	M-	2	7
	38	6.7	50	H-	53	L	1	10
	39	6.7	46	H-	75	L+	2	7
	40	6.9	81	H	97	M-	2	69
	41	6.7	59	H	59	L+	1	10
	42	6.9	60	H	56	L+	1	10
	44	6.6	108	H+	72	L+	2	7
	45	6.4	96	H+	97	M-	2	7
	46	5.4	-	-	-	-	1	10
	47	6.5	-	-	-	-	1	10
	48	6.7	-	-	-	-	1	10
	49	6.6	-	-	-	-	1	10
	51	6.4	120	VH	84	M-	2	7

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SOIL TEST INFORMATION

Name: Southampton Correctional Center

Sample Year: 1993

Tract	Field #	Soil pH	P205 lb/a	VA TECH	K lb/A	VA TECH	PROD. GROUP	SOIL
Farm Cropland	2	6.0	52	H-	135	M	2	10
	3	6.3	117	VH	103	M	3	7
	5	6.2	120	VH	177	H-	2	10
	6	6.7	120	VH	193	H-	3	7
	7	5.9	120	VH	113	M	4	51
	8	6.7	92	H+	91	M-	2	10
	9	6.0	120	VH	119	M	2	10
	10	5.6	120	VH	44	L	5	18
	11	6.4	120	VH	119	M	1	13
	12	6.4	120	VH	88	M-	1	13
	13	6.5	120	VH	91	M-	3	7
	14	6.8	120	VH	116	M	4	61
	15	6.7	92	H+	91	M-	3	7
	16	5.8	120	VH	135	M	5	44
	17	6.9	120	VH	141	M	4	61
	18	6.6	120	VH	78	M-	1	62
	19	6.3	120	VH	122	M	1	13
	20	6.3	105	H+	91	M-	2	169
	21	6.2	120	VH	116	M	1 & 5	18
	22	6.4	53	H-	75	L+	2	10
	23	6.2	91	H+	84	M-	3	7
	24	5.8	120	VH	84	M-	4	61
	25	5.9	120	VH	78	M-	3	7
	26	6.9	120	VH	91	M-	1	52
	27	6.9	120	VH	84	M-	3	7
	28	6.5	120	VH	119	M	1	62
	29	Airstrip	-	-	-	-	-	-
	30	6.1	104	H+	138	M	2	10

FEB 23 1995

MANURE UTILIZATION
WORKSHEET

Southampton Correctional Farm
Cattle Lagoon

I AMOUNT OF MANURE 607,315 Gallons/Year

II MANURE ANALYSIS lbs/1000 gals. (average values)

22.61 N	9.57 NH4-N	12.07 P205
18.92 K20	10.90 Ca	4.55 Mg

III NUTRIENT AVAILABILITY

A. Immediate Incorporation

N = (____* inorganic N) + (0.5 * organic N) + (residual)
(_____) + (___(_____) = _____

P =_____* total P205 _____ = _____

K =_____* total K20 _____ = _____

B. Delayed Incorporation (> 7 days) irrigated

N = (.25 * inorganic N) + (0.5 * organic N) + (residual)
(.25 * 9.75) + (.35(22.61 - 9.57) = 6.95 lbs/1000g. First Year

P = 1.0 * total P205 12.07 =12.07 lbs/1000g.

K = 1.0 * total K20 18.92 =18.92 lbs/1000g.

IV RESIDUAL N

Second Year .12 (22.61 - 9.57) = 1.56 lbs/1000 gals
Third Year .05 (22.61 - 9.57) = 0.65 lbs/1000 gals
Fourth Year .02 (22.61 - 9.57) = 0.26 lbs/1000 gals

V APPLICATION

Type of applicator Irrigation
Size of applicator _____
Nutrients per load N 6.95 lbs P 12.07 lbs K 18.92 lbs/1000 gals

Amount/Acre Pasture/Hay 0.5" or 13,575 gals/year
Acres Needed 607,315/13,575 = 44 acres
Acres Available 56 pasture and 47 cropland

0.5" = 94 lbs.N; 164 lbs. P2O5; 257 lbs. K2O

FEB 23 1995

MANURE UTILIZATION
WORKSHEET

Southampton Correctional Farm
Swine Slurrystore (Proposed)

I AMOUNT OF MANURE 1,102,416 Gallons/Year

II MANURE ANALYSIS lbs/1000 gals. (average values)

41.13 N 26.93 NH4-N 29.75 P205

18.18 K20 16.44 Ca 4.86 Mg

III NUTRIENT AVAILABILITY

A. Immediate Incorporation

N = (____* inorganic N) + (0.5 * organic N) + (residual)
(_____) + (___(_____) = _____

P =_____* total P205 _____ = _____

K =_____* total K20 _____ = _____

B. Delayed Incorporation (> 7 days) irrigated

N = (.25 * inorganic N) + (0.5 * organic N) + (residual)
(.25 *26.93) + (.5(41.13 - 26.93) =13.83 lbs/1000g. First Year

P = 1.0 * total P205 29.75 =29.75 lbs/1000g.

K = 1.0 * total K20 18.18 =18.18 lbs/1000g.

IV RESIDUAL N

Second Year .12 (41.13 - 26.93) = 1.7 lbs/1000 gals
Third Year .05 (41.13 - 26.93) = 0.7 lbs/1000 gals
Fourth Year .02 (41.13 - 26.93) = 0.3 lbs/1000 gals

V APPLICATION

Type of applicator Irrigation (travel gun)
Size of applicator
Nutrients per load N 150 lbs P 323 lbs K 197 lbs/ .4"

Amount/Acre .4 inch or 10,860 gals/ac
Acres Needed 1,102,416/10,860 = 102 acres
Acres Available Flds 12,19,21(east) = 105 ac. +
Flds 11,26(west) = 119 ac. Total = 224 ac.

FEB 23 1995

Manure Composition and Values

Name: Southampton Correctional Farm Cattle Lagoon

Number of Animals: 300 Type: Beef Cattle
Total Manure Volume Produced per year: 607,315 gals

Manure Composition and Value

Nutrient Availability per: 1000 gals (Tons or 1000 gal.)

Year 1 Content			Residual N		
N	6.9	lbs.	YR 2	1.5	lbs.
P2O5	12.0	lbs.	YR 3	0.6	lbs.
K2O	18.9	lbs.	YR 4	0.2	lbs.

Values from - Manure test: Average Value: X

Value per: 1000 gals (Tons or 1000 gal.)

Nutrient			$/lb.	Total value / Nutrient
N	6.9	lbs	0.24	$ 1.65
P2O5	12.0	lbs	0.26	3.12
K2O	18.9	lbs	0.16	3.02
Total value of Manure:				$ 7.79

607,315 gals/yr x $ 7.79/1000 gals = $ 4,731./year.

Manure Utilization

Crop	Yield Potential	Acres	Quantity Manure/acre	Total Manure Used
Corn	120 bu/ac	47	13,575 gals	638,025 gals
Pasture (fescue)	4 T/ac	56	13,575 gals	760,200 gals

Potential Utilization of Manure: 1,398,225 gals
Total Manure Produced: 607,315 gals
Remainder (if any): 0

FEB 23 1995

Manure Composition and Values

Name: Southampton Correctional Farm Swine Slurrystore

Number of Animals: 2665 Type: Swine
Total Manure Volume Produced per year: 1,102,416 gals

Manure Composition and Value

Nutrient Availability per: 1000 gals (Tons or 1000 gal.)

Year 1 Content			Residual N		
N	13.8	lbs.	YR 2	1.7	lbs.
P2O5	29.7	lbs.	YR 3	0.7	lbs.
K2O	18.1	lbs.	YR 4	0.3	lbs.

Values from - Manure test: Average Value: X (new)

Value per: 1000 gals (Tons or 1000 gal.)

Nutrient			$/lb.	Total value / Nutrient
N	13.8	lbs	0.24	$ 3.31
P2O5	29.7	lbs	0.26	7.72
K2O	18.1	lbs	0.16	2.89
Total value of Manure:				$13.92/1000 gals

1,102,416 gals/yr x $13.92/1000 gals = $15,345/year.

Manure Utilization

Crop	Yield Potential	Acres	Quantity Manure/acre	Total Manure Used
Corn	190 bu/ac (irrigated)	224	10,860 gals (.4 inch)	2,432,640 gals

Potential Utilization of Manure: 2,432,640 gals
Total Manure Produced: 1,102,416 gals
Remainder (if any): 0

FEB 23 1995

Annual Manure Volume

Southampton Correctional Center
Beef Cattle Lagoon Existing

A. Manure Production

Animal Type	Avg. Wt.	Gal/yr	# Animals	% Confined	Volume (Gal)
Beef Cattle	900 lbs X	2.74 X	300 X	.50 =	369,900

B. Process Wastewater

# Animals	X	Wastewater Gallons / Day	X	365	None (recycled)
	X		X	365 =	

C. Feedlot Runoff

$$\frac{(A \times ROF \times Ann.\ Prec \times 7.48)}{12} = \text{Feedlot Runoff}$$

A = Feedlot Area in square feet
ROF = Runoff Factor
Ann. Prec = Annual Precipitation

$$\frac{5400 \times .60 \times 42 \times 7.48}{12} = 84,823$$

D. Net Precipitation Excess Over Pit

$$\frac{(SA \times NPE \times 7.48)}{12} = \text{Total NPE}$$

SA = Storage Area
NPE = Net Precipitation Excess => Rainfall - (Lake evap X .3)

$$\frac{40,800 \times 6 \times 7.48}{12} = 152,592$$

TOTAL VOLUME PRODUCED = A + B + C + D

TOTAL ANNUAL LIQUID ANIMAL WASTE VOLUME PRODUCED = 607,315 gal/yr

FEB 23 1995

Annual Manure Volume

Southampton Correctional Center
Swine Slurrystore

A. Manure Production

	Animal Type	Avg. Wt.		Gal/yr	# Animals	% Confined		Volume (Gal)
S	Sow-litter	375 lbs	X	3.84	X 40	X 1.0	=	57,600
W	Gestation	275 lbs	X	1.46	X 215	X 1.0	=	86,322
I	Boar	350 lbs	X	1.46	X 10	X 1.0	=	5,110
N	Nursery	30 lbs	X	2.74	X 600	X 1.0	=	49,320
E	Finish	145 lbs	X	2.74	X 1800	X 1.0	=	715,140
								913,492

B. Process Wastewater

# Animals	X	Wastewater Gallons / Day	X	365			
	X	500	X	365	=	182,500	182,500

C. Feedlot Runoff

$$\frac{(A \times ROF \times Ann.\ Prec \times 7.48)}{12} = \text{Feedlot Runoff}$$

A = Feedlot Area in square feet
ROF = Runoff Factor
Ann. Prec = Annual Precipitation

$$\frac{\qquad}{12} = 0$$

D. Net Precipitation Excess Over Pit

$$\frac{(SA \times NPE \times 7.48)}{12} = \text{Total NPE}$$

SA = Storage Area
NPE = Net Precipitation Excess => Rainfall - (Lake evap X .3)

$$\frac{5{,}153 \times 2 \times 7.48}{12} = 6{,}424$$

TOTAL VOLUME PRODUCED = A + B + C + D
913,492 + 182,500 + 6,424

TOTAL ANNUAL LIQUID ANIMAL WASTE VOLUME PRODUCED =1,102,416 gal/yr
Vol= 726,600 gals 726,600/1,102,417=.66X365=240 days storage

SOUTHAMPTON BIOSOLIDS NUTRIENT MANAGEMENT PLAN

Field	Acres	Soil pH	Soil Type	Crop Rotation	Nutrient Needs N-P-K (lb/acre)	Biosolids Nutrients Provided (lb/acre)	N-P-K Balance (lb/acre)	Biosolids Application Rate (wet tons/acre)	Cumulative Tonnage
Crops: Primary Fields									
2	3	6	Slagle fine sandy loam	Corn/Grain	140-30-80	40-8-7	100-22-73	1.29	
5	17	6.2	Slagle fine sandy loam	(rye cover)	100-22-73	100-19-16	0-3-57	3.23	
20	9	6.3	Munden loamy sand						
22	10	6.4	Slagle fine sandy loam	Corn/Silage	140-20-160	40-8-7	100-12-153	1.29	
Subtotal	39	acres		(rye cover)	100-12-153	100-19-16	0-(7)-137	3.23	176.28 best
				Sorghum	70-40-90	30-6-5	40-34-85	0.97	
				(rye cover)	40-34-85	40-8-7	0-26-78	1.29	67.8 worst
3	25	6.3	Emporia fine sandy loam	Corn/Grain	130-0-80	40-8-7	90-(8)-73	1.29	
23	5	6.2	Emporia fine sandy loam	(rye cover)	90-(8)-73	90-17-15	0-(25)-58	2.9	
Subtotal	30	acres		Corn/Silage	130-0-160	40-8-7	90-(8)-153	1.29	
				(rye cover)	90-(8)-153	90-17-15	0-(25)-138	2.9	125.7 best
				Sorghum	70-0-90	30-6-5	40-(6)-85	0.97	
				(rye cover)	40-(6)-85	40-8-7	0-(14)-78	1.29	67.8 worst
28	8	6.5	State fine sandy loam	Corn/Grain	190-0-80	40-8-7	150-(8)-73	1.29	
Subtotal	8	acres		(rye cover)	150-(8)-73	150-29-24	0-(37)-49	4.84	49.04 best
				Corn/Silage	190-0-160	40-8-7	150-(8)-153	1.29	
				(rye cover)	150-(8)-153	150-29-24	0-(37)-129	4.84	
Total	77	acres							

NOTES :

1) Numbers in parentheses represent an excess of these nutrients.

2) Average nutrient values for biosolids (based on a wet ton) are as follows:

31.30 lb N / ton , Use 31 lb N / ton
4.66 lb K / ton , Use 5 lb K / ton
5.83 lb P / ton , Use 6 lb P / ton

3) Biosolids cannot be applied to cropfields where cattle or hog manure have been applied, for a period of three years.

SOUTHAMPTON BIOSOLIDS NUTRIENT MANAGEMENT PLAN

Field	Acres	Soil pH	Soil Type	Crop Rotation	Nutrient Needs N-P-K (lb/acre)	Biosolids Nutrients Provided (lb/acre)	N-P-K Balance (lb/acre)	Biosolids Application Rate (wet tons/acre)	Cumulative Tonnage
Crops: Secondary Fields									
11	44	6.4	Altavista fine sandy loam	Corn/Grain	190-0-80	40-8-7	150-(8)-73	1.29	
18	27	6.6	State fine sandy loam	(rye cover)	150-(8)-73	150-29-24	0-(37)-49	4.84	1048.23 best
21	25	6.2	Alaga loamy sand						
26	75	6.9	Tomotley sandy loam	Corn/Silage	190-0-160	40-8-7	150-(8)-153	1.29	
Subtotal	171	acres		(rye cover)	150-(8)-153	150-29-24	0-(37)-129	4.84	
				Sorghum	70-0-90	30-6-5	40-(6)-85	0.97	
				(rye cover)	40-(6)-85	40-8-7	0-(14)-78	1.29	131.08 worst
8	30	6.7	Slagle fine sandy loam	Corn/Grain	140-30-80	40-8-7	100-22-73	1.29	
9	8	6	Slagle fine sandy loam	(rye cover)	100-22-73	100-19-16	0-3-57	3.23	
30	20	6.1	Slagle fine sandy loam						
Subtotal	58	acres		Corn/Silage	140-20-160	40-8-7	100-12-153	1.29	
				(rye cover)	100-12-153	100-19-16	0-(7)-137	3.23	262.16 best
				Sorghum	70-40-90	30-6-5	40-34-85	0.97	
				(rye cover)	40-34-85	40-8-7	0-26-78	1.29	131.08 worst
6	3	6.7	Emporia fine sandy loam	Corn/Grain	130-0-80	40-8-7	90-(8)-73	1.29	
13	77	6.5	Emporia fine sandy loam	(rye cover)	90-(8)-73	90-17-15	0-(25)-58	2.9	
15	58	6.7	Emporia fine sandy loam						
Subtotal	138	acres		Corn/Silage	130-0-160	40-8-7	90-(8)-153	1.29	
				(rye cover)	90-(8)-153	90-17-15	0-(25)-138	2.9	578.22 best
				Sorghum	70-0-90	30-6-5	40-(6)-85	0.97	
				(rye cover)	40-(6)-85	40-8-7	0-(14)-78	1.29	311.88 worst
24	2	5.8	Rumford, Kenansville, and Uchee	Corn/Grain	110-0-60	40-8-7	70-(8)-53	1.29	
				(rye cover)	70-(8)-53	70-14-11	0-(22)-42	2.26	
Subtotal	2	acres							
				Corn/Silage	110-0-120	40-8-7	70-(8)-113	1.29	
				(rye cover)	70-(8)-113	70-14-11	0-(22)-102	2.26	7.1 best
				Sorghum	70-0-80	30-6-5	40-(6)-75	0.97	
				(rye cover)	40-(6)-75	40-8-7	0-(14)-68	1.29	4.52 worst

10	20	5.6	Alaga loamy sand	Corn/Grain	85-0-60	40-8-7	45-(8)-53	1.29	
16	10	5.8	Tarboro loamy sand	(rye cover)	45-(8)-53	45-9-7	0-(17)-46	1.45	
Subtotal	30	acres							
				Corn/Silage	85-0-120	40-8-7	45-(8)-113	1.29	
				(rye cover)	45-(8)-113	45-9-7	0-(17)-106	1.45	82.2 best
				Sorghum	70-0-80	30-6-5	40-(6)-75	0.97	
				(rye cover)	40-(6)-75	40-8-7	0-(14)-68	1.29	67.8 worst
Total	399	acres							

NOTES :

1) Numbers in parentheses represent an excess of these nutrients.

2) Average nutrient values for biosolids (based on a wet ton) are as follows:

31.30 lb N / ton , Use 31 lb N / ton
4.66 lb K / ton , Use 5 lb K / ton
5.83 lb P / ton , Use 6 lb P / ton

3) Biosolids cannot be applied to cropfields where cattle or hog manure have been applied, for a period of three years.

SOUTHAMPTON BIOSOLIDS NUTRIENT MANAGEMENT PLAN

Field	Acres	Soil pH	Soil Type	Crop Rotation	Nutrient Needs N-P-K (lb/acre)	70% of Agronomic Need (lb/acre)	Biosolids Nutrients Provided (lb/acre)	N-P-K Balance (lb/acre)	Biosolids Application Rate (wet tons/acre)	Cumulative Tonnage
Pastures: Primary Fields										
39	20	6.7	Emporia fine sandy loam	Pasture-Hay	120-0-100	84-0-70	84-16-14	36-(16)-86	2.71	121.95
40	18	6.9	Nansemond loamy fine san							
46	7	5.4	Slagle fine sandy loam							
Subtotal	45	acres								
Pastures: Secondary Fields										
34	29	6.6	Slagle fine sandy loam	Pasture-Hay	120-0-100	84-0-70	84-16-14	36-(16)-86	2.71	607.04
35	25	6.6	Emporia fine sandy loam							
36	7	6.8	Munden loamy sand							
37	40	6.1	Emporia fine sandy loam							
38	14	6.7	Slagle fine sandy loam							
41	8	6.7	Slagle fine sandy loam							
42	20	6.9	Slagle fine sandy loam							
44	22	6.6	Emporia fine sandy loam							
45	18	6.4	Emporia fine sandy loam							
47	6	6.5	Slagle fine sandy loam							
48	6	6.7	Slagle fine sandy loam							
49	4	6.6	Slagle fine sandy loam							
51	25	6.4	Emporia fine sandy loam							
Subtotal	224	acres								
Total	269	acres								

NOTES :

1) Numbers in parentheses represent an excess of these nutrients.

2) Average nutrient values for biosolids (based on a wet ton) are as follows:

31.30 lb N / ton , Use 31 lb N / ton
4.66 lb K / ton , Use 5 lb K / ton
5.83 lb P / ton , Use 6 lb P / ton

3) Biosolids cannot be applied to cropfields where cattle or hog manure have been applied, for a period of three years.

Nutrient Management Plan Balance Sheet
(Spring, 2007-Winter, 2009)
Southampton DOC
Planner: Harry Dalton (cert. No. 137)

Tract: DOC Location: Southampton

(N = N based, 1P = P based, 1.5P = P based at 1.5 removal, 0P = No P allowed)

Field CFSA No. /Name	Size (ac) Total/ Used	Yr.	Crop	Needs N-P-K (lbs/ac)	Leg /Man Resid	Manure/Biosld Rate & Type (season)	IT (d)	Man/Bios N-P-K (lbs/ac)	Net = Needs - appld N-P-K (lbs/ac)	Sum P rem cred	Commercial N-P-K (lbs/ac)	Notes
17/10(1P)	20/20	2007	Unimproved Pasture	0-0-0	0/0				0-0-0	0	0-0-0(td)	
		2008	... ...	0-0-0	0/0				0-0-0	0	0-0-0(td)	
		2009	... ...	0-0-0	0/0				0-0-0	0	0-0-0(td)	
11/11(1P)	44/44	2007	Corn (grain)	170-0-80	0/0	5.t Biosol(Sp)	>7	8-21-1	160-(20)-80	65	30-0-80(ba) 130-0-0(sd)	1
		2008	Wheat (cover) Corn (grain)	0-0-0 170-0-80	0/0 0/2	5.t Biosol(Sp)	>7	8-21-1	0-(20)-0 160-(40)-80	65 131	30-0-80(ba) 130-0-0(sd)	1
		2009	Wheat (cover) Corn (grain)	0-0-0 170-0-80	0/0 0/4	5.t Biosol(Sp)	>7	8-21-1	0-(40)-0 160-(60)-80	131 196	30-0-80(ba) 130-0-0(sd)	1
15/12(N)	46/46	2007	Corn (grain)	170-40-60	0/0	6.k Hogs(Sp)	>7	31-25-52	140-15-10	N/A	30-15-10(ba) 140-0-0(sd)	1
		2008	Wheat (cover) Corn (grain)	0-0-0 170-40-60	0/0 0/1	6.k Hogs(Sp)	>7	31-25-52	0-0-0 140-15-10	N/A N/A	30-15-10(ba) 140-0-0(sd)	1
		2009	Wheat (cover) Corn (grain)	0-0-0 170-40-60	0/0 0/2	6.k Hogs(Sp)	>7	31-25-52	0-0-0 135-15-10	N/A N/A	30-15-10(ba) 105-0-0(sd)	1
4/13(N)	77/77	2007	Corn (grain)	130-20-80	0/0				130-20-80	N/A	30-20-80(ba) 100-0-0(sd)	1
		2008	Wheat (cover) Corn (grain)	0-0-0 130-20-80	0/0 0/0				0-0-0 130-20-80	N/A N/A	30-20-80(ba) 100-0-0(sd)	1
		2009	Wheat (cover) Corn (grain)	0-0-0 130-20-80	0/0 0/0				0-0-0 130-20-80	N/A N/A	30-20-80(ba) 100-0-0(sd)	1

Tract: DOC Location: Southampton

Field CFSA No. /Name	Size (ac) Total/ Used	Yr.	Crop	Needs N-P-K (lbs/ac)	Leg /Man Resid	Manure/Biosld Rate & Type (season)	IT (d)	Man/Bios N-P-K (lbs/ac)	Net = Needs - appld N-P-K (lbs/ac)	Sum P rem cred	Commercial N-P-K (lbs/ac)	Notes
1/14,24(1P)	22/22	2007	Soybeans (FS)	0-0-100	0/0				0-0-100	22	0-0-100(br)	2
			Wheat (cover)	0-0-0	15/0				(15)-0-0	22		
		2008	Soybeans (FS)	0-0-100	0/0				0-0-100	45	0-0-100(br)	2
			Wheat (cover)	0-0-0	15/0				(15)-0-0	45		
		2009	Soybeans (FS)	0-0-100	0/0				0-0-100	67	0-0-100(br)	2
5/15(N)	59/59	2007	Corn (grain)	140-20-60	0/0				140-20-60	N/A	30-20-60(ba) 110-0-0(sd)	1
			Wheat (cover)	0-0-0	0/0				0-0-0	N/A		
		2008	Corn (grain)	140-20-60	0/0				140-20-60	N/A	30-20-60(ba) 110-0-0(sd)	1
			Wheat (cover)	0-0-0	0/0				0-0-0	N/A		
		2009	Corn (grain)	140-20-60	0/0				140-20-60	N/A	30-20-60(ba) 110-0-0(sd)	1
16/16(0P)	14/14	2007	Soybeans (FS)	0-0-80	0/0				0-0-80	45	0-0-80(br)	2
			Wheat (cover)	0-0-0	15/0				(15)-0-0	45		
		2008	Corn (grain)	180-0-100	0/0				180-0-100	113	30-0-100(ba) 150-0-0(sd)	1
			Wheat (cover)	0-0-0	0/0				0-0-0	113		
		2009	Corn (grain)	180-0-100	0/0				180-0-100	181	30-0-100(ba) 150-0-0(sd)	1
2A/17(1P)	2/2	2007	Soybeans (FS)	0-0-80	0/0				0-0-80	18	0-0-80(br)	2
			Wheat (cover)	0-0-0	15/0				(15)-0-0	18		
		2008	Soybeans (FS)	0-0-80	0/0				0-0-80	36	0-0-80(br)	2
			Wheat (cover)	0-0-0	15/0				(15)-0-0	36		
		2009	Soybeans (FS)	0-0-80	0/0				0-0-80	53	0-0-80(br)	2

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Field CFSA No. /Name	Size (ac) Total/ Used	Yr.	Crop	Needs N-P-K (lbs/ac)	Leg /Man Resid	Manure/Biosld Rate & Type (season)	IT (d)	Man/Bios N-P-K (lbs/ac)	Net = Needs - appld N-P-K (lbs/ac)	Sum P rem cred	Commercial N-P-K (lbs/ac)	Notes
20/18(1P)	27/27	2007	Soybeans (FS)	0-0-80	0/0				0-0-80	45	0-0-80(br)	2
			Wheat (cover)	0-0-0	15/0				(15)-0-0	45		
		2008	Soybeans (FS)	0-0-80	0/0				0-0-80	89	0-0-80(br)	2
			Wheat (cover)	0-0-0	15/0				(15)-0-0	89		
		2009	Soybeans (FS)	0-0-80	0/0				0-0-80	134	0-0-80(br)	2
13/19(N)	50/50	2007	Corn (grain)	160-20-80	0/0				160-20-80	N/A	30-20-80(ba) 130-0-0(sd)	1
			Wheat (cover)	0-0-0	0/0				0-0-0	N/A		
		2008	Corn (grain)	160-20-80	0/0				160-20-80	N/A	30-20-80(ba) 130-0-0(sd)	1
			Wheat (cover)	0-0-0	0/0				0-0-0	N/A		
		2009	Corn (grain)	160-20-80	0/0				160-20-80	N/A	30-20-80(ba) 130-0-0(sd)	1
20/2(N)	3/3	2007	Corn (grain)	150-80-80	15/0				135-80-80	N/A	30-80-80(ba) 105-0-0(sd)	1
			Wheat (cover)	0-0-0	0/0				0-0-0	N/A		
		2008	Corn (grain)	150-80-80	0/0				150-80-80	N/A	30-80-80(ba) 120-0-0(sd)	1
			Wheat (cover)	0-0-0	0/0				0-0-0	N/A		
		2009	Corn (grain)	150-80-80	0/0				150-80-80	N/A	30-80-80(ba) 120-0-0(sd)	1
11/20(N)	9/9	2007	Corn (grain)	120-20-80	0/0				120-20-80	N/A	30-20-80(ba) 90-0-0(sd)	1
			Wheat (cover)	0-0-0	0/0				0-0-0	N/A		
		2008	Corn (grain)	120-20-80	0/0				120-20-80	N/A	30-20-80(ba) 90-0-0(sd)	1
			Wheat (cover)	0-0-0	0/0				0-0-0	N/A		
		2009	Corn (grain)	120-20-80	0/0				120-20-80	N/A	30-20-80(ba) 90-0-0(sd)	1

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Field CFSA No. /Name	Size (ac) Total/ Used	Yr.	Crop	Needs N-P-K (lbs/ac)	Leg /Man Resid	Manure/Biosld Rate & Type (season)	IT (d)	Man/Bios N-P-K (lbs/ac)	Net = Needs - appld N-P-K (lbs/ac)	Sum P rem cred	Commercial N-P-K (lbs/ac)	Notes
8/21(N)	25/25	2007	Corn (grain)	130-30-80	0/0				130-30-80	N/A	30-30-80(ba) 100-0-0(sd)	1
		2008	Wheat (cover)	0-0-0	0/0				0-0-0	N/A		
			Corn (grain)	130-30-80	0/0				130-30-80	N/A	30-30-80(ba) 100-0-0(sd)	1
		2009	Wheat (cover)	0-0-0	0/0				0-0-0	N/A		
			Corn (grain)	130-30-80	0/0				130-30-80	N/A	30-30-80(ba) 100-0-0(sd)	1
7/22(N)	10/10	2007	Soybeans (FS)	0-40-60	0/0				0-40-60	N/A	0-40-60(br)	2
			Wheat (cover)	0-0-0	15/0				(15)-0-0	N/A		
		2008	Soybeans (FS)	0-40-60	0/0				0-40-60	N/A	0-40-60(br)	2
			Wheat (cover)	0-0-0	15/0				(15)-0-0	N/A		
		2009	Corn (grain)	150-60-80	0/0				150-60-80	N/A	30-60-80(ba) 120-0-0(sd)	1
6/23(N)	5/5	2007	Corn (grain)	140-20-60	15/0				125-20-60	N/A	30-20-60(ba) 95-0-0(sd)	1
			Wheat (cover)	0-0-0	0/0				0-0-0	N/A		
		2008	Corn (grain)	140-20-60	0/0				140-20-60	N/A	30-20-60(ba) 110-0-0(sd)	1
			Wheat (cover)	0-0-0	0/0				0-0-0	N/A		
		2009	Corn (grain)	140-20-60	0/0				140-20-60	N/A	30-20-60(ba) 110-0-0(sd)	1
2/25(1P)	12/12	2007	Soybeans (FS)	0-0-80	0/0				0-0-80	34	0-0-80(br)	2
			Wheat (cover)	0-0-0	15/0				(15)-0-0	34		
		2008	Soybeans (FS)	0-0-80	0/0				0-0-80	69	0-0-80(br)	2
			Wheat (cover)	0-0-0	15/0				(15)-0-0	69		
		2009	Soybeans (FS)	0-0-80	0/0				0-0-80	103	0-0-80(br)	2

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Field CFSA No. /Name	Size (ac) Total/ Used	Yr.	Crop	Needs N-P-K (lbs/ac)	Leg /Man Resid	Manure/Biosld Rate & Type (season)	IT (d)	Man/Bios N-P-K (lbs/ac)	Net = Needs - appld N-P-K (lbs/ac)	Sum P rem cred	Commercial N-P-K (lbs/ac)	Notes
12/26(1P)	75/75	2007	Corn (grain)	160-0-80	0/0				160-0-80	60	30-0-80(ba) 130-0-0(sd)	1
		2008	Wheat (cover)	0-0-0	0/0				0-0-0	60		
			Corn (grain)	160-0-80	0/0				160-0-80	120	30-0-80(ba) 130-0-0(sd)	1
		2009	Wheat (cover)	0-0-0	0/0				0-0-0	120		
			Corn (grain)	160-0-80	0/0				160-0-80	180	30-0-80(ba) 130-0-0(sd)	1
24/27(1P)	12/12	2007	Soybeans (FS)	0-0-80	0/0				0-0-80	28	0-0-80(br)	2
			Wheat (cover)	0-0-0	15/0				(15)-0-0	28		
		2008	Soybeans (FS)	0-0-80	0/0				0-0-80	55	0-0-80(br)	2
			Wheat (cover)	0-0-0	15/0				(15)-0-0	55		
		2009	Soybeans (FS)	0-0-80	0/0				0-0-80	83	0-0-80(br)	2
9,10/28(1P)	16/16	2007	Corn (grain)	180-0-80	0/0	6.t Biosol(Sp)	>7	10-26-2	170-(25)-80	68	30-0-80(ba) 140-0-0(sd)	1
		2008	Wheat (cover)	0-0-0	0/0				0-(25)-0	68		
			Corn (grain)	180-0-80	0/2	6.t Biosol(Sp)	>7	10-26-2	170-(50)-80	137	30-0-80(ba) 140-0-0(sd)	1
		2009	Wheat (cover)	0-0-0	0/0				0-(50)-0	137		
			Corn (grain)	180-0-80	0/5	6.t Biosol(Sp)	>7	10-26-2	165-(75)-80	205	30-0-80(ba) 135-0-0(sd)	1
33/3(N)	25/25	2007	Corn (grain)	150-40-80	15/0				135-40-80	N/A	30-40-80(ba) 105-0-0(sd)	1
		2008	Wheat (cover)	0-0-0	0/0				0-0-0	N/A		
			Corn (grain)	150-40-80	0/0				150-40-80	N/A	30-40-80(ba) 120-0-0(sd)	1
		2009	Wheat (cover)	0-0-0	0/0				0-0-0	N/A		
			Corn (grain)	150-40-80	0/0				150-40-80	N/A	30-40-80(ba) 120-0-0(sd)	1

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Field CFSA No. /Name	Size (ac) Total/ Used	Yr.	Crop	Needs N-P-K (lbs/ac)	Leg /Man Resid	Manure/Biosld Rate & Type (season)	IT (d)	Man/Bios N-P-K (lbs/ac)	Net = Needs - appld N-P-K (lbs/ac)	Sum P rem cred	Commercial N-P-K (lbs/ac)	Notes
39/30(N)	20/20	2007	Bermudagrass hay mt.	270-40-205	0/0	6.k Hogs(Sp)	>7	31-25-52	240-15-155	N/A	120-15-155(td)	3
		2008	... ...	270-40-205	0/1	6.k Hogs(Sp)	>7	31-25-52	240-15-155	N/A	120-0-0(td) 120-15-155(td)	3
		2009	... ...	270-40-205	0/2	6.k Hogs(Sp)	>7	31-25-52	235-15-155	N/A	120-0-0(td) 120-15-155(td)	3
32A/31P(0P)	13/13	2007	Grass Pasture	50-0-0	0/0				50-0-0	30	120-0-0(td) 50-0-0(td)	3
		2008	... ...	50-0-0	0/0				50-0-0	60	50-0-0(td)	3
		2009	... ...	50-0-0	0/0				50-0-0	90	50-0-0(td)	3
32/32P(1P)	18/18	2007	Grass Pasture	50-0-0	0/0				50-0-0	30	50-0-0(td)	3
		2008	... ...	50-0-0	0/0				50-0-0	60	50-0-0(td)	3
		2009	... ...	50-0-0	0/0				50-0-0	90	50-0-0(td)	3
28/34P(N)	30/30	2007	Grass Pasture	50-0-40	0/0				50-0-40	N/A	50-0-40(td)	3
		2008	... ...	50-0-40	0/0				50-0-40	N/A	50-0-40(td)	3
		2009	... ...	50-0-40	0/0				50-0-40	N/A	50-0-40(td)	3
28A/35P(N)	25/25	2007	Grass Pasture	50-0-80	0/0	6.k Hogs(Sp)	>7	31-25-52	20-(25)-30	N/A	20-0-30(td)	3
		2008	... ...	50-0-80	0/1	6.k Hogs(Sp)	>7	31-25-52	20-(50)-30	N/A	20-0-30(td)	3
		2009	... ...	50-0-80	0/2	6.k Hogs(Sp)	>7	31-25-52	15-(75)-30	N/A	15-0-30(td)	3
37/36P(N)	7/7	2007	Grass Pasture	50-0-40	0/0				50-0-40	N/A	50-0-40(td)	3
		2008	... ...	50-0-40	0/0				50-0-40	N/A	50-0-40(td)	3
		2009	... ...	50-0-40	0/0				50-0-40	N/A	50-0-40(td)	3
36/37P(N)	40/40	2007	Grass Pasture	50-0-80	0/0				50-0-80	N/A	50-0-80(td)	3
		2008	... ...	50-0-80	0/0				50-0-80	N/A	50-0-80(td)	3
		2009	... ...	50-0-80	0/0				50-0-80	N/A	50-0-80(td)	3
35/38P(N)	16/16	2007	Grass Pasture	50-0-90	0/0				50-0-90	N/A	50-0-90(td)	3
		2008	... ...	50-0-90	0/0				50-0-90	N/A	50-0-90(td)	3
		2009	... ...	50-0-90	0/0				50-0-90	N/A	50-0-90(td)	3

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Field CFSA No. /Name	Size (ac) Total/ Used	Yr.	Crop	Needs N-P-K (lbs/ac)	Leg /Man Resid	Manure/Biosld Rate & Type (season)	IT (d)	Man/Bios N-P-K (lbs/ac)	Net = Needs - appld N-P-K (lbs/ac)	Sum P rem cred	Commercial N-P-K (lbs/ac)	Notes
40/39P(1P)	20/20	2007	Grass Pasture	50-0-80	0/0				50-0-80	30	50-0-80(td)	3
		2008	... ...	50-0-80	0/0				50-0-80	60	50-0-80(td)	3
		2009	... ...	50-0-80	0/0				50-0-80	90	50-0-80(td)	3
42/40P(0P)	18/18	2007	Grass Pasture	50-0-30	0/0				50-0-30	25	50-0-30(td)	3
		2008	... ...	50-0-30	0/0				50-0-30	50	50-0-30(td)	3
		2009	... ...	50-0-30	0/0				50-0-30	75	50-0-30(td)	3
41/41P(N)	8/8	2007	Grass Pasture	50-0-80	0/0				50-0-80	N/A	50-0-80(td)	3
		2008	... ...	50-0-80	0/0				50-0-80	N/A	50-0-80(td)	3
		2009	... ...	50-0-80	0/0				50-0-80	N/A	50-0-80(td)	3
41A/42P(1P)	20/20	2007	Grass Pasture	50-0-100	0/0				50-0-100	30	50-0-100(td)	3
		2008	... ...	50-0-100	0/0				50-0-100	60	50-0-100(td)	3
		2009	... ...	50-0-100	0/0				50-0-100	90	50-0-100(td)	3
38/44P(1P)	22/22	2007	Grass Pasture	50-0-80	0/0				50-0-80	30	50-0-80(td)	3
		2008	... ...	50-0-80	0/0				50-0-80	60	50-0-80(td)	3
		2009	... ...	50-0-80	0/0				50-0-80	90	50-0-80(td)	3
34/45P(N)	18/18	2007	Grass Pasture	50-0-80	0/0	6.k Hogs(Sp)	>7	31-25-52	20-(25)-30	N/A	20-0-30(td)	3
		2008	... ...	50-0-80	0/1				50-(25)-80	N/A	50-0-80(td)	3
		2009	... ...	50-0-80	0/1	6.k Hogs(Sp)	>7	31-25-52	20-(50)-30	N/A	20-0-30(td)	3
46/46P(N)	7/7	2007	Grass Pasture	50-0-80	0/0				50-0-80	N/A	50-0-80(td)	3
		2008	... ...	50-0-80	0/0	6.k Hogs(Sp)	>7	31-25-52	20-(25)-30	N/A	20-0-30(td)	3
		2009	... ...	50-0-80	0/1				50-(25)-80	N/A	50-0-80(td)	3
21/47P(N)	6/6	2007	Grass Pasture	50-0-80	0/0				50-0-80	N/A	50-0-80(td)	3
		2008	... ...	50-0-80	0/0				50-0-80	N/A	50-0-80(td)	3
		2009	... ...	50-0-80	0/0				50-0-80	N/A	50-0-80(td)	3
22/48P(N)	6/6	2007	Grass Pasture	50-0-90	0/0	6.k Hogs(Sp)	>7	31-25-52	20-(25)-40	N/A	20-0-40(td)	3
		2008	... ...	50-0-90	0/1	6.k Hogs(Sp)	>7	31-25-52	20-(50)-40	N/A	20-0-40(td)	3
		2009	... ...	50-0-90	0/2				50-(50)-90	N/A	50-0-90(td)	3

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Field CFSA No. /Name	Size (ac) Total/ Used	Yr.	Crop	Needs N-P-K (lbs/ac)	Leg /Man Resid	Manure/Biosld Rate & Type (season)	IT (d)	Man/Bios N-P-K (lbs/ac)	Net = Needs - appld N-P-K (lbs/ac)	Sum P rem cred	Commercial N-P-K (lbs/ac)	Notes
24/5(1P)	17/17	2007	Corn (grain)	140-0-60	15/0				125-0-60	54	30-0-60(ba) 95-0-0(sd)	1
		2008	Wheat (cover) Corn (grain)	0-0-0 140-0-60	0/0 0/0				0-0-0 140-0-60	54 108	30-0-60(ba) 110-0-0(sd)	1
		2009	Wheat (cover) Corn (grain)	0-0-0 140-0-60	0/0 0/0				0-0-0 140-0-60	108 162	30-0-60(ba) 110-0-0(sd)	1
18/51(1P)	16/16	2007	Soybeans (FS)	0-0-60	0/0				0-0-60	33	0-0-60(br)	2
		2008	Wheat (cover) Soybeans (FS)	0-0-0 0-0-60	15/0 0/0				(15)-0-0 0-0-60	33 66	0-0-60(br)	2
		2009	Wheat (cover) Soybeans (FS)	0-0-0 0-0-60	15/0 0/0				(15)-0-0 0-0-60	66 99	0-0-60(br)	2
30/7(0P)	17/17	2007	Bermudagrass hay mt.	235-0-205	0/0	6.k Hogs(Sp)	>7	31-25-52	205-(25)-155	43	105-0-155(td)	3
		2008	... ...	235-0-205	0/1	6.k Hogs(Sp)	>7	31-25-52	205-(50)-155	85	100-0-0(td) 105-0-155(td)	3
		2009	... ...	235-0-205	0/2	6.k Hogs(Sp)	>7	31-25-52	200-(75)-155 Net P:(75)	128	100-0-0(td) 100-0-155(td) 100-0-0(td)	3
31/8(N)	33/33	2007	Corn (grain)	100-40-80	15/0				85-40-80	N/A	30-40-80(ba) 55-0-0(sd)	1
		2008	Wheat (cover) Corn (grain)	0-0-0 100-40-80	0/0 0/0				0-0-0 100-40-80	N/A N/A	30-40-80(ba) 70-0-0(sd)	1
		2009	Wheat (cover) Corn (grain)	0-0-0 100-40-80	0/0 0/0				0-0-0 100-40-80	N/A N/A	30-40-80(ba) 70-0-0(sd)	1

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Field CFSA No. /Name	Size (ac) Total/ Used	Yr.	Crop	Needs N-P-K (lbs/ac)	Leg /Man Resid	Manure/Biosld Rate & Type (season)	IT (d)	Man/Bios N-P-K (lbs/ac)	Net = Needs - appld N-P-K (lbs/ac)	Sum P rem cred	Commercial N-P-K (lbs/ac)	Notes
27/9(N)	8/8	2007	Corn (grain)	150-40-100	15/0				135-40-100	N/A	30-40-100(ba) 105-0-0(sd)	1
		2008	Wheat (cover)	0-0-0	0/0				0-0-0	N/A		
			Corn (grain)	150-40-100	0/0				150-40-100	N/A	30-40-100(ba) 120-0-0(sd)	1
		2009	Wheat (cover)	0-0-0	0/0				0-0-0	N/A		
			Corn (grain)	150-40-100	0/0				150-40-100	N/A	30-40-100(ba) 120-0-0(sd)	1

Commercial Application Methods:
br - Broadcast ba - Banded sd - Sidedress

Notes:

1 Apply manure and/or N,P,K as recommended at planting and balance of N sidedressed at 12-18" stage. PSNT will help determine rate at this stage.
2 May apply P,K to previous crop .
3 Apply manure and/or N,P,K as recommended topdressed and split N after cuttings or graze downs according to spreading schedule.

Field Productivities for Major Crops

Tract Name	Tract/ Field	Field Name	Acres	Predominant Soil Series	Corn	Small Grain	Alfalfa	Grass Hay	Environmental Warnings
DOC	25657/17	10*	20	ALAGA	V	III	Not Suited	Not Suited	High Leaching
	25657/11	11	44	ALTAVISTA	Ib	I	II	I	
	25657/15	12	46	ALTAVISTA	Ib	I	II	I	
	25657/4	13	77	SLAGLE	IIIb	II	III	II	
	25657/1	14,24*	22	RUMFORD	IVb	II	Not Suited	III	High Leaching
	25657/5	15	59	EMPORIA	IIIa	II	III	II	
	25657/16	16	14	STATE1	Ia	I	II	I	
	25657/2A	17	2	CHASTAIN	V	V	Not Suited	IV	
	25657/20	18	27	STATE1	Ia	I	II	I	
	25657/13	19	50	ALTAVISTA	IIa	II	II	II	
	25657/20	2	3	SLAGLE	IIb	I	III	I	
	25657/11	20*	9	MUNDEN	IVa	II	Not Suited	IV	High Leaching
	25657/8	21*	25	ALAGA	IIIb	II	III	III	High Leaching
	25657/7	22	10	SLAGLE	IIb	I	III	I	
	25657/6	23	5	EMPORIA	IIIa	II	III	II	
	25657/2	25	12	EMPORIA	IIIa	II	III	II	
	25657/12	26	75	ALTAVISTA	IIa	II	III	II	
	25657/24	27*	12	EMPORIA	IVa	II	Not Suited	III	High Leaching
	25657/9,10	28	16	STATE1	Ia	I	II	I	
	25657/33	3	25	EMPORIA	IIb	II	III	II	
	25657/39	30	20	SLAGLE	IIb	I	III	I	
	25657/32A	31P	13	EMPORIA	IIIa	II	III	II	
	25657/32	32P	18	EMPORIA	IIa	II	III	II	
	25657/28	34P	30	SLAGLE	IIIa	I	III	II	
	25657/28A	35P	25	EMPORIA	IIIa	II	III	II	
	25657/37	36P	7	MUNDEN	IIb	I	III	III	
	25657/36	37P	40	EMPORIA	IIIa	II	III	II	
	25657/35	38P	16	EMPORIA	IIIa	II	III	II	

25657/40	39P	20	EMPORIA	IIIa	II	III	II	
25657/42	40P	18	NANSEMOND	IIb	I	III	II	
25657/41	41P	8	SLAGLE	IIb	I	III	I	
25657/41 A	42P	20	SLAGLE	IIb	I	III	I	
25657/38	44P	22	EMPORIA	IIIa	II	III	II	
25657/34	45P	18	SLAGLE	IIb	I	III	I	
25657/46	46P	7	SLAGLE	IIb	I	III	I	
25657/21	47P	6	SLAGLE	IIb	I	III	I	
25657/22	48P	6	SLAGLE	IIb	I	III	I	
25657/24	5	17	EMPORIA	IIIa	II	III	II	
25657/18	51	16	EMPORIA	IIIb	II	III	II	
25657/30	7*	17	BOJAC1	IVa	II	Not Suited	II	High Leaching
25657/31	8*	33	BUNCOMBE	IVb	III	Not Suited	IV	High Leaching
25657/27	9	8	SLAGLE	IIb	I	III	I	

* Do not apply manure or biosolids more than 30 days prior to planting. Apply commercial fertilizer nitrogen to row crops in split spring applicaions.

Yield Range

Field Productivity Group	Corn Grain Bu/Acre	Barley/Intensive Wheat Bu/Acre	Std. Wheat Bu/Acre	Alfalfa Tons/Acre	Grass/Hay Tons/Acre
I	>170	>80	>64	>6	>4.0
II	150-170	70-80	56-64	4-6	3.5-4.0
III	130-150	60-70	48-56	<4	3.0-3.5
IV	100-130	50-60	40-48	NA	<3.0
V	<100	<50	<40	NA	NA

Soil Test Summary

Tract	Field	Acre	Date	P2O5	K2O	Lab	Soil pH	Lime Date	rec. lime tons/Ac
DOC	10	20	2006-Fa	VH (192 P lbs/acre)	M- (91 K lbs/acre)	Virginia Tech	6.1		
DOC	11	44	2006-Fa	VH (158 P lbs/acre)	M (115 K lbs/acre)	Virginia Tech	6.		
DOC	12	46	2006-Fa	H (76 P lbs/acre)	M+ (173 K lbs/acre)	Virginia Tech	6.8		
DOC	13	77	2006-Fa	H+ (92 P lbs/acre)	L+ (71 K lbs/acre)	Virginia Tech	6.		
DOC	14,24	22	2006-Fa	VH (201 P lbs/acre)	L (50 K lbs/acre)	Virginia Tech	6.3		
DOC	15	59	2006-Fa	H+ (108 P lbs/acre)	M (113 K lbs/acre)	Virginia Tech	6.3		
DOC	16	14	2006-Fa	VH (322 P lbs/acre)	M- (77 K lbs/acre)	Virginia Tech	5.4		
DOC	17	2	2006-Fa	VH (149 P lbs/acre)	L+ (76 K lbs/acre)	Virginia Tech	6.5		
DOC	18	27	2006-Fa	VH (192 P lbs/acre)	M- (91 K lbs/acre)	Virginia Tech	6.1		
DOC	19	50	2006-Fa	H+ (106 P lbs/acre)	M (124 K lbs/acre)	Virginia Tech	6.2		
DOC	2	3	2006-Fa	M (21 P lbs/acre)	M (144 K lbs/acre)	Virginia Tech	6.7		
DOC	20	9	2006-Fa	H+ (100 P lbs/acre)	M- (95 K lbs/acre)	Virginia Tech	6.		
DOC	21	25	2006-Fa	H (62 P lbs/acre)	M- (93 K lbs/acre)	Virginia Tech	6.6		
DOC	22	10	2006-Fa	H- (43 P lbs/acre)	M (102 K lbs/acre)	Virginia Tech	5.9		
DOC	23	5	2006-Fa	H+ (95 P lbs/acre)	M (143 K lbs/acre)	Virginia Tech	6.5		
DOC	25	12	2006-Fa	VH (146 P lbs/acre)	L+ (71 K lbs/acre)	Virginia Tech	5.8		
DOC	26	75	2006-Fa	VH (158 P lbs/acre)	M (115 K lbs/acre)	Virginia Tech	6.		
DOC	27	12	2006-Fa	VH (142 P lbs/acre)	L+ (60 K lbs/acre)	Virginia Tech	5.7		
DOC	28	16	2006-Fa	VH (159 P lbs/acre)	M (120 K lbs/acre)	Virginia Tech	6.4		
DOC	3	25	2006-Fa	H (85 P lbs/acre)	M (115 K lbs/acre)	Virginia Tech	6.9		
DOC	30	20	2006-Fa	H+ (98 P lbs/acre)	M (124 K lbs/acre)	Virginia Tech	6.4		
DOC	31P	13	2006-Fa	VH (363 P lbs/acre)	VH (452 K lbs/acre)	Virginia Tech	6.3		
DOC	32P	18	2006-Fa	VH (148 P lbs/acre)	H- (202 K lbs/acre)	Virginia Tech	5.8		
DOC	34P	30	2006-Fa	H (76 P lbs/acre)	M (108 K lbs/acre)	Virginia Tech	5.8		
DOC	35P	25	2006-Fa	H (71 P lbs/acre)	M (121 K lbs/acre)	Virginia Tech	5.8		
DOC	36P	7	2006-Fa	H (84 P lbs/acre)	M (136 K lbs/acre)	Virginia Tech	6.4		
DOC	37P	40	2006-Fa	H+ (93 P lbs/acre)	M (130 K lbs/acre)	Virginia Tech	5.8		
DOC	38P	16	2006-Fa	H (59 P lbs/acre)	M- (85 K lbs/acre)	Virginia Tech	6.5		
DOC	39P	20	2006-Fa	VH (135 P lbs/acre)	M (120 K lbs/acre)	Virginia Tech	6.5		
DOC	40P	18	2006-Fa	VH (289 P lbs/acre)	M+ (165 K lbs/acre)	Virginia Tech	6.3		
DOC	41P	8	2006-Fa	H (79 P lbs/acre)	M (105 K lbs/acre)	Virginia Tech	6.3		
DOC	42P	20	2006-Fa	VH (111 P lbs/acre)	L+ (73 K lbs/acre)	Virginia Tech	6.3		
DOC	44P	22	2006-Fa	VH (129 P lbs/acre)	M (120 K lbs/acre)	Virginia Tech	6.5		
DOC	45P	18	2006-Fa	H (69 P lbs/acre)	M (143 K lbs/acre)	Virginia Tech	6.3		
DOC	46P	7	2006-Fa	H (69 P lbs/acre)	M (143 K lbs/acre)	Virginia Tech	6.3		
DOC	47P	6	2006-Fa	H+ (93 P lbs/acre)	M (135 K lbs/acre)	Virginia Tech	6.2		

DOC	48P	6	2006-Fa	H- (49 P lbs/acre)	M- (85 K lbs/acre)	Virginia Tech	6.6
DOC	5	17	2006-Fa	VH (114 P lbs/acre)	M (108 K lbs/acre)	Virginia Tech	6.3
DOC	51	16	2006-Fa	VH (137 P lbs/acre)	M (127 K lbs/acre)	Virginia Tech	6.7
DOC	7	17	2006-Fa	VH (359 P lbs/acre)	M (122 K lbs/acre)	Virginia Tech	6.7
DOC	8	33	2006-Fa	H- (48 P lbs/acre)	M- (82 K lbs/acre)	Virginia Tech	6.9
DOC	9	8	2006-Fa	H (72 P lbs/acre)	M- (99 K lbs/acre)	Virginia Tech	6.8

Manure Production Summary

Manure Name: Hogs

Animal Summary
Sow and Litter: 40
Gestation Sow: 140
Boar: 14
Feeder Swine: 1920

Manure Storage Capacity: 727. kgals

Manure Analysis:
TKN: 11.27
P2O5: 4.24
NH4: 9.51
K2O: 8.6

Plant Available Nutrients:
Immediate Incorporation:
9.44 lbs N
4.24 lbs P2O5
8.60 lbs K2O
Surface Applied:
5.16 lbs N
4.24 lbs P2O5
8.60 lbs K2O
Residual N:
yr 1: .21 lbs
yr 2: .09 lbs
yr 3: .04 lbs

Manure Production

Dec-Feb	188
Mar-May	188
Jun-Aug	188
Sep-Nov	188

Total Produced: 751

Manure Sold/yr: 0
Manure purch./yr: 0

Liquid Manure Production Details

production [kgal/yr] = (# confined)[animals] * (avg wt)[animal-lbs/animal] * (prod factor)[gal/yr/animal-lb] * (0.001)[kgal/gal] + (# confined)[animals] * (waste-water)[gal/day/animal] * (365)[day/yr] * (0.001)[kgal/gal]

Group Name	animal type	%(#) confined	avg wt	prod factor	waste water	production
Sow	Sow and Litter	100(40)	375.0	3.84	0.1	58.4
Gestation	Gestation Sow	100(140)	275.0	1.46	0.1	59.0
Boar	Boar	100(14)	350.0	1.46	0.1	7.4
Nursery	Feeder Swine	100(720)	35.0	2.74	0.1	83.2
Finish	Feeder Swine	100(1200)	150.0	2.74	0.1	516.9

Net Precipitation Excess

NPE [kgal/yr] = {precip (45.[in/yr]) - evap (41.[in/yr])} * pit/lagoon factor (0.9) * surface area (5153.[sq-ft]) * (1/12)[ft/in] * (7.48)[gal/cu-ft] * (0.001)[kgal/gal] = 26.02[kgal/yr]

Biosolid Name: Biosolid
Availability: 300 tons
Biosolid Type: Aerobic Digestion
% solid: 30.0
pH: 6.2
%CCE: 0.0
Biosolid Analysis (ppm):

TKN: 6990
NH4-N: 340
NO3: 558
P2O5: 7121.9
K2O: 492

Plant Available Nutrients:

Immediate Incorporation:

1.71 lbs N
4.27 lbs P2O5
0.3 lbs K2O

Surface Applied:

1.63 lbs N
4.27 lbs P2O5
0.3 lbs K2O

Residual N:

yr1: 0.4 lbs N
yr2: 0.4 lbs N
yr3: 0.2 lbs N

Application Summary Report

2007: Native/unimproved pastures <=25% legume, maint.

Tract	Field	Acres	Manure Rate and Type (Season)	Incorp Time (Days)	Broadcast Commercial	Banded Commercial	Topdress Commercial
DOC	10	20.0					0-0-0(Sp)

2007: Corn (grain)

Tract	Field	Acres	Manure Rate and Type (Season)	Incorp Time (Days)	Broadcast Commercial	Banded Commercial	Topdress Commercial
DOC	11	44.0	5.0t Bioso(Sp)	BC >= 7 day		30-0-80(Sp)	130-0-0(Sp)
	12	46.2	6.0k Hogs(Sp)	BC >= 7 day		30-15-10(Sp)	140-0-0(Sp)
	13	77.0				30-20-80(Sp)	100-0-0(Sp)
	15	58.5				30-20-60(Sp)	110-0-0(Sp)
	19	50.0				30-20-80(Sp)	130-0-0(Sp)
	2	3.0				30-80-80(Sp)	105-0-0(Sp)
	20	9.0				30-20-80(Sp)	90-0-0(Sp)
	21	25.0				30-30-80(Sp)	100-0-0(Sp)
	23	5.0				30-20-60(Sp)	95-0-0(Sp)
	26	75.0				30-0-80(Sp)	130-0-0(Sp)
	28	16.0	6.0t Bioso(Sp)	BC >= 7 day		30-0-80(Sp)	140-0-0(Sp)
	3	25.0				30-40-80(Sp)	105-0-0(Sp)
	5	17.0				30-0-60(Sp)	95-0-0(Sp)
	8	33.0				30-40-80(Sp)	55-0-0(Sp)
	9	8.0				30-40-100(Sp)	105-0-0(Sp)

2007: Soybeans (FS)

Tract	Field	Acres	Manure Rate and Type (Season)	Incorp Time (Days)	Broadcast Commercial	Banded Commercial	Topdress Commercial
DOC	14,24	22.0			0-0-100(Sp)		
	16	14.0			0-0-80(Sp)		

	17	2.0					
	18	27.0			0-0-80(Sp)		
	22	10.0			0-0-80(Sp)		
	25	12.0			0-40-60(Sp)		
	27	12.0			0-0-80(Sp)		
	51	16.0			0-0-80(Sp)		
					0-0-60(Sp)		

2007: Bermudagrass (hay), maint.

Tract	Field	Acres	Manure Rate and Type (Season)	Incorp Time (Days)	Broadcast Commercial	Banded Commercial	Topdress Commercial
DOC	30	20.0	6.0k Hogs(Sp)	BC >= 7 day			120-15-155(Sp)
	7	17.0	6.0k Hogs(Sp)	BC >= 7 day			120-0-0(Su)
							105-0-155(Sp)
							100-0-0(Su)

2007: Orchard grass/fescue pastures<=25% legume, maint.

Tract	Field	Acres	Manure Rate and Type (Season)	Incorp Time (Days)	Broadcast Commercial	Banded Commercial	Topdress Commercial
DOC	31P	13.0					50-0-0(Sp)
	32P	18.0					50-0-0(Sp)
	34P	30.0					50-0-40(Sp)
	35P	25.0	6.0k Hogs(Sp)	BC >= 7 day			20-0-30(Sp)
	36P	7.0					
	37P	40.0					50-0-40(Sp)
	38P	16.3					50-0-80(Sp)
	39P	20.0					50-0-90(Sp)
	40P	18.0					50-0-80(Sp)
	41P	8.0					50-0-30(Sp)
	42P	20.0					50-0-80(Sp)
	44P	22.0					50-0-100(Sp)
	45P	18.0	6.0k Hogs(Sp)	BC >= 7 day			50-0-80(Sp)
							20-0-30(Sp)

	46P	7.0					50-0-80(Sp)
	47P	6.0					50-0-80(Sp)
	48P	6.0	6.0k Hogs(Sp)	BC >= 7 day			20-0-40(Sp)

2008: Native/unimproved pastures <=25% legume, maint.

Tract	Field	Acres	Manure Rate and Type (Season)	Incorp Time (Days)	Broadcast Commercial	Banded Commercial	Topdress Commercial
DOC	10	20.0					0-0-0(Sp)

2008: Corn (grain)

Tract	Field	Acres	Manure Rate and Type (Season)	Incorp Time (Days)	Broadcast Commercial	Banded Commercial	Topdress Commercial
DOC	11	44.0	5.0t Bioso(Sp)	BC >= 7 day		30-0-80(Sp)	130-0-0(Sp)
	12	46.2	6.0k Hogs(Sp)	BC >= 7 day		30-15-10(Sp)	140-0-0(Sp)
	13	77.0				30-20-80(Sp)	100-0-0(Sp)
	15	58.5				30-20-60(Sp)	110-0-0(Sp)
	16	14.0				30-0-100(Sp)	150-0-0(Sp)
	19	50.0				30-20-80(Sp)	130-0-0(Sp)
	2	3.0				30-80-80(Sp)	120-0-0(Sp)
	20	9.0				30-20-80(Sp)	90-0-0(Sp)
	21	25.0				30-30-80(Sp)	100-0-0(Sp)
	23	5.0				30-20-60(Sp)	110-0-0(Sp)
	26	75.0				30-0-80(Sp)	130-0-0(Sp)
	28	16.0	6.0t Bioso(Sp)	BC >= 7 day		30-0-80(Sp)	140-0-0(Sp)
	3	25.0				30-40-80(Sp)	120-0-0(Sp)
	5	17.0				30-0-60(Sp)	110-0-0(Sp)
	8	33.0				30-40-80(Sp)	70-0-0(Sp)
	9	8.0				30-40-100(Sp)	120-0-0(Sp)

2008: Soybeans (FS)

Tract	Field	Acres	Manure Rate and Type (Season)	Incorp Time (Days)	Broadcast Commercial	Banded Commercial	Topdress Commercial
DOC	14,24	22.0			0-0-100(Sp)		
	17	2.0			0-0-80(Sp)		
	18	27.0			0-0-80(Sp)		
	22	10.0			0-40-60(Sp)		
	25	12.0			0-0-80(Sp)		
	27	12.0			0-0-80(Sp)		
	51	16.0			0-0-60(Sp)		

2008: Bermudagrass (hay), maint.

Tract	Field	Acres	Manure Rate and Type (Season)	Incorp Time (Days)	Broadcast Commercial	Banded Commercial	Topdress Commercial
DOC	30	20.0	6.0k Hogs(Sp)	BC >= 7 day			120-15-155(Sp)
	7	17.0	6.0k Hogs(Sp)	BC >= 7 day			120-0-0(Su) 105-0-155(Sp) 100-0-0(Su)

2008: Orchard grass/fescue pastures<=25% legume, maint.

Tract	Field	Acres	Manure Rate and Type (Season)	Incorp Time (Days)	Broadcast Commercial	Banded Commercial	Topdress Commercial
DOC	31P	13.0					50-0-0(Sp)
	32P	18.0					50-0-0(Sp)
	34P	30.0					50-0-40(Sp)
	35P	25.0	6.0k Hogs(Sp)	BC >= 7 day			20-0-30(Sp)
	36P	7.0					50-0-40(Sp)
	37P	40.0					50-0-80(Sp)
	38P	16.3					50-0-90(Sp)
	39P	20.0					50-0-80(Sp)
	40P	18.0					50-0-30(Sp)
	41P	8.0					50-0-80(Sp)

	42P	20.0					50-0-100(Sp)
	44P	22.0					50-0-80(Sp)
	45P	18.0					50-0-80(Sp)
	46P	7.0	6.0k Hogs(Sp)	BC >= 7 day			20-0-30(Sp)
	47P	6.0					50-0-80(Sp)
	48P	6.0	6.0k Hogs(Sp)	BC >= 7 day			20-0-40(Sp)

2009: Native/unimproved pastures <=25% legume, maint.

Tract	Field	Acres	Manure Rate and Type (Season)	Incorp Time (Days)	Broadcast Commercial	Banded Commercial	Topdress Commercial
DOC	10	20.0					0-0-0(Sp)

2009: Corn (grain)

Tract	Field	Acres	Manure Rate and Type (Season)	Incorp Time (Days)	Broadcast Commercial	Banded Commercial	Topdress Commercial
DOC	11	44.0	5.0t Bioso(Sp)	BC >= 7 day		30-0-80(Sp)	130-0-0(Sp)
	12	46.2	6.0k Hogs(Sp)	BC >= 7 day		30-15-10(Sp)	105-0-0(Sp)
	13	77.0				30-20-80(Sp)	100-0-0(Sp)
	15	58.5				30-20-60(Sp)	110-0-0(Sp)
	16	14.0				30-0-100(Sp)	150-0-0(Sp)
	19	50.0				30-20-80(Sp)	130-0-0(Sp)
	2	3.0				30-80-80(Sp)	120-0-0(Sp)
	20	9.0				30-20-80(Sp)	90-0-0(Sp)
	21	25.0				30-30-80(Sp)	100-0-0(Sp)
	22	10.0				30-60-80(Sp)	120-0-0(Sp)
	23	5.0				30-20-60(Sp)	110-0-0(Sp)
	26	75.0				30-0-80(Sp)	130-0-0(Sp)
	28	16.0	6.0t Bioso(Sp)	BC >= 7 day		30-0-80(Sp)	135-0-0(Sp)
	3	25.0				30-40-80(Sp)	120-0-0(Sp)
	5	17.0				30-0-60(Sp)	110-0-0(Sp)

	8	33.0				30-40-80(Sp)	70-0-0(Sp)
	9	8.0				30-40-100(Sp)	120-0-0(Sp)

2009: Soybeans (FS)

Tract	Field	Acres	Manure Rate and Type (Season)	Incorp Time (Days)	Broadcast Commercial	Banded Commercial	Topdress Commercial
DOC	14,24	22.0			0-0-100(Sp)		
	17	2.0			0-0-80(Sp)		
	18	27.0			0-0-80(Sp)		
	25	12.0			0-0-80(Sp)		
	27	12.0			0-0-80(Sp)		
	51	16.0			0-0-60(Sp)		

2009: Bermudagrass (hay), maint.

Tract	Field	Acres	Manure Rate and Type (Season)	Incorp Time (Days)	Broadcast Commercial	Banded Commercial	Topdress Commercial
DOC	30	20.0	6.0k Hogs(Sp)	BC >= 7 day			120-15-155(Sp)
	7	17.0	6.0k Hogs(Sp)	BC >= 7 day			120-0-0(Su)
							100-0-155(Sp)
							100-0-0(Su)

2009: Orchard grass/fescue pastures<=25% legume, maint.

Tract	Field	Acres	Manure Rate and Type (Season)	Incorp Time (Days)	Broadcast Commercial	Banded Commercial	Topdress Commercial
DOC	31P	13.0					50-0-0(Sp)
	32P	18.0					50-0-0(Sp)
	34P	30.0					50-0-40(Sp)
	35P	25.0	6.0k Hogs(Sp)	BC >= 7 day			15-0-30(Sp)
	36P	7.0					50-0-40(Sp)
	37P	40.0					50-0-80(Sp)

38P	16.3			50-0-90(Sp)
39P	20.0			50-0-80(Sp)
40P	18.0			50-0-30(Sp)
41P	8.0			50-0-80(Sp)
42P	20.0			50-0-100(Sp)
44P	22.0			50-0-80(Sp)
45P	18.0	6.0k Hogs(Sp)	BC >= 7 day	20-0-30(Sp)
46P	7.0			50-0-80(Sp)
47P	6.0			50-0-80(Sp)
48P	6.0			50-0-90(Sp)

Manure Spreading Summary

Season	Manure	Rate/ac	Tract	Field	Acres	Crop	Total in Field	Running Total
2007Sp	Biosolid	5.0 tons	DOC	11	44	Corn (grain)	220 tons	220 tons
		6.0 tons	DOC	28	16	Corn (grain)	96 tons	316 tons
	Hogs	6.0 kgals	DOC	12	46	Corn (grain)	277 kgals	277 kgals
		6.0 kgals	DOC	30	20	Bermudagrass (hay), maint	120 kgals	397 kgals
		6.0 kgals	DOC	35P	25	Orchard grass/fescue past	150 kgals	547 kgals
		6.0 kgals	DOC	45P	18	Orchard grass/fescue past	108 kgals	655 kgals
		6.0 kgals	DOC	48P	6	Orchard grass/fescue past	36 kgals	691 kgals
		6.0 kgals	DOC	7	17	Bermudagrass (hay), maint	102 kgals	793 kgals

Season	Manure	Rate/ac	Tract	Field	Acres	Crop	Total in Field	Running Total
2008Sp	Biosolid	5.0 tons	DOC	11	44	Corn (grain)	220 tons	220 tons
		6.0 tons	DOC	28	16	Corn (grain)	96 tons	316 tons
	Hogs	6.0 kgals	DOC	12	46	Corn (grain)	277 kgals	277 kgals
		6.0 kgals	DOC	30	20	Bermudagrass (hay), maint	120 kgals	397 kgals
		6.0 kgals	DOC	35P	25	Orchard grass/fescue past	150 kgals	547 kgals
		6.0 kgals	DOC	46P	7	Orchard grass/fescue past	42 kgals	589 kgals
		6.0 kgals	DOC	48P	6	Orchard grass/fescue past	36 kgals	625 kgals
		6.0 kgals	DOC	7	17	Bermudagrass (hay), maint	102 kgals	727 kgals

Season	Manure	Rate/ac	Tract	Field	Acres	Crop	Total in Field	Running Total
2009Sp	Biosolid	5.0 tons	DOC	11	44	Corn (grain)	220 tons	220 tons
		6.0 tons	DOC	28	16	Corn (grain)	96 tons	316 tons
	Hogs	6.0 kgals	DOC	12	46	Corn (grain)	277 kgals	277 kgals
		6.0 kgals	DOC	30	20	Bermudagrass (hay), maint	120 kgals	397 kgals
		6.0 kgals	DOC	35P	25	Orchard grass/fescue past	150 kgals	547 kgals
		6.0 kgals	DOC	45P	18	Orchard grass/fescue past	108 kgals	655 kgals
		6.0 kgals	DOC	7	17	Bermudagrass (hay), maint	102 kgals	757 kgals

Farm Summary Report

Plan: **Southampton DOC** **Spring, 2007 - Winter, 2009**

Farm Name: **Southampton DOC**
Location: Southampton
Specialist: Harry Dalton

Tract Name: **DOC**
FSA Number: 25657
Location: Southampton

Field Name: **10**
Total Acres: 20.00 Usable Acres: 20.00
FSA Number: 17
Tract: DOC
Location: Southampton
Slope Class: B Hydrologic Group: A

Riparian buffer width: 0 ft
Distance to stream: 0 ft

Conservation Practices:
Pasture (>75% cover)

P-Index Summary
P-based(1.0)
Phosphorus Limit method: Phosphorus Environmental Threshold (PET) method

Soil Test Results:

DATE	PH	P	K	Lab
Fa-2006	6.1	VH(192 P lbs/acre)	M-(91 K lbs/acre)	Virginia Tech

Soils:

PERCENT	SYMBOL	SOIL SERIES
100	1B	ALAGA

Crop Rotation:

PLANTED	YIELD	CROP NAME
2007-Sp	172.0 bushel(s)	Corn (grain) - No Till
2007-Fa	0.0	Wheat (cover) - Tilled
2008-Sp	172.0 bushel(s)	Corn (grain) - No Till
2008-Fa	0.0	Wheat (cover) - Tilled
2009-Sp	172.0 bushel(s)	Corn (grain) - No Till

Field Name: **12**

Total Acres: 46.20 Usable Acres: 46.20

FSA Number: 15

Tract: DOC

Location: Southampton

Slope Class: B Hydrologic Group: C

Riparian buffer width: 0 ft

Distance to stream: 0 ft

P-Index Summary

N-based

Phosphorus Limit method: Phosphorus Environmental Threshold (PET) method

Soil Test Results:

DATE	PH	P	K	Lab
Fa-2006	6.8	H(76 P lbs/acre)	M+(173 K lbs/acre)	Virginia Tech

Soils:

PERCENT	SYMBOL	SOIL SERIES
60	2B	ALTAVISTA
30	2A	ALTAVISTA
5	15A	MUNDEN
5	28B	TARBORO

Field Warnings:

Crop Rotation:

PLANTED	YIELD	CROP NAME

2009-Sp	132.0 bushel(s)	Corn (grain) - No Till

Field Name: 14,24
Total Acres: 22.00 Usable Acres: 22.00
FSA Number: 1
Tract: DOC
Location: Southampton
Slope Class: B Hydrologic Group: B

Riparian buffer width: 0 ft
Distance to stream: 0 ft

P-Index Summary
P-based(1.0)
Phosphorus Limit method: Phosphorus Environmental Threshold (PET) method

Soil Test Results:

DATE	PH	P	K	Lab
Fa-2006	6.3	VH(201 P lbs/acre)	L(50 K lbs/acre)	Virginia Tech

Soils:

PERCENT	SYMBOL	SOIL SERIES
100	24B	KENANSVILLE RUMFORD UCHEE

Field Warnings:
Environmentally Sensitive Soils due to:

Soils with potential for leaching based on soil texture or excessive drainage

Crop Rotation:

PLANTED	YIELD	CROP NAME
2007-Sp	25.0 bushel(s)	Soybeans (FS) - No Till
2007-Fa	0.0	Wheat (cover) - Tilled
2008-Sp	25.0 bushel(s)	Soybeans (FS) - No Till
2008-Fa	0.0	Wheat (cover) - Tilled
2009-Sp	25.0 bushel(s)	Soybeans (FS) - No Till

Location: Southampton
Slope Class: B Hydrologic Group: B

Riparian buffer width: 0 ft
Distance to stream: 0 ft

P-Index Summary
Zero-P
Phosphorus Limit method: Phosphorus Environmental Threshold (PET) method

Soil Test Results:

DATE	PH	P	K	Lab
Fa-2006	5.4	VH(322 P lbs/acre)	M-(77 K lbs/acre)	Virginia Tech

Soils:

PERCENT	SYMBOL	SOIL SERIES
100	27B STATE1	

Field Warnings:

Crop Rotation:

PLANTED	YIELD	CROP NAME
2007-Sp	50.0 bushel(s)	Soybeans (FS) - No Till
2007-Fa	0.0	Wheat (cover) - Tilled
2008-Sp	180.0 bushel(s)	Corn (grain) - No Till
2008-Fa	0.0	Wheat (cover) - Tilled
2009-Sp	180.0 bushel(s)	Corn (grain) - No Till

Field Name: **17**
Total Acres: 2.00 Usable Acres: 2.00
FSA Number: 2A
Tract: DOC
Location: Southampton
Slope Class: A Hydrologic Group: C

Riparian buffer width: 0 ft
Distance to stream: 0 ft

DATE	PH	P	K	Lab
Fa-2006	6.1	VH(192 P lbs/acre)	M-(91 K lbs/acre)	Virginia Tech

Soils:

PERCENT	SYMBOL	SOIL SERIES
100	27B STATE1	

Field Warnings:

Crop Rotation:

PLANTED	YIELD	CROP NAME
2007-Sp	50.0 bushel(s)	Soybeans (FS) - No Till
2007-Fa	0.0	Wheat (cover) - Tilled
2008-Sp	50.0 bushel(s)	Soybeans (FS) - No Till
2008-Fa	0.0	Wheat (cover) - Tilled
2009-Sp	50.0 bushel(s)	Soybeans (FS) - No Till

Field Name: **19**
Total Acres: 50.00 Usable Acres: 50.00
FSA Number: 13
Tract: DOC
Location: Southampton
Slope Class: A Hydrologic Group: C

Riparian buffer width: 0 ft
Distance to stream: 0 ft

P-Index Summary
N-based
Phosphorus Limit method: Phosphorus Environmental Threshold (PET) method

Soil Test Results:

DATE	PH	P	K	Lab
Fa-2006	6.2	H+(106 P lbs/acre)	M(124 K lbs/acre)	Virginia Tech

Soils:

PERCENT	SYMBOL	SOIL SERIES

Crop Rotation:

PLANTED	YIELD	CROP NAME
2007-Sp	150.0 bushel(s)	Corn (grain) - No Till
2007-Fa	0.0	Wheat (cover) - Tilled
2008-Sp	150.0 bushel(s)	Corn (grain) - No Till
2008-Fa	0.0	Wheat (cover) - Tilled
2009-Sp	150.0 bushel(s)	Corn (grain) - No Till

Field Name: **20**

Total Acres: 9.00 Usable Acres: 9.00

FSA Number: 11

Tract: DOC

Location: Southampton

Slope Class: B Hydrologic Group: B

Riparian buffer width: 0 ft

Distance to stream: 0 ft

P-Index Summary

N-based

Phosphorus Limit method: Phosphorus Environmental Threshold (PET) method

Soil Test Results:

DATE	PH	P	K	Lab
Fa-2006	6.0	H+(100 P lbs/acre)	M-(95 K lbs/acre)	Virginia Tech

Soils:

PERCENT	SYMBOL	SOIL SERIES
30	28B	TARBORO
40	15B	MUNDEN
30	5B	BOJAC1

Field Warnings:

Environmentally Sensitive Soils due to:

Soils with potential for leaching based on soil texture or excessive drainage

Crop Rotation:

PLANTED	YIELD	CROP NAME
2007-Sp	134.0 bushel(s)	Corn (grain) - No Till
2007-Fa	0.0	Wheat (cover) - Tilled
2008-Sp	134.0 bushel(s)	Corn (grain) - No Till
2008-Fa	0.0	Wheat (cover) - Tilled
2009-Sp	134.0 bushel(s)	Corn (grain) - No Till

Field Name: **22**
Total Acres: 10.00 Usable Acres: 10.00
FSA Number: 7
Tract: DOC
Location: Southampton
Slope Class: B Hydrologic Group: C

Riparian buffer width: 0 ft
Distance to stream: 0 ft

P-Index Summary
N-based
Phosphorus Limit method: Phosphorus Environmental Threshold (PET) method

Soil Test Results:

DATE	PH	P	K	Lab
Fa-2006	5.9	H-(43 P lbs/acre)	M(102 K lbs/acre)	Virginia Tech

Soils:

PERCENT	SYMBOL	SOIL SERIES
100	26B	SLAGLE

Field Warnings:

Crop Rotation:

PLANTED	YIELD	CROP NAME
2007-Sp	40.0 bushel(s)	Soybeans (FS) - No Till
2007-Fa	0.0	Wheat (cover) - Tilled
2008-Sp	40.0 bushel(s)	Soybeans (FS) - No Till
2008-Fa	0.0	Wheat (cover) - Tilled

Location: Southampton
Slope Class: A Hydrologic Group: C

Riparian buffer width: 0 ft
Distance to stream: 0 ft

P-Index Summary
P-based(1.0)
Phosphorus Limit method: Phosphorus Environmental Threshold (PET) method

Soil Test Results:

DATE	PH	P	K	Lab
Fa-2006	5.8	VH(146 P lbs/acre)	L+(71 K lbs/acre)	Virginia Tech

Soils:

PERCENT	SYMBOL	SOIL SERIES
90	13A	EMPORIA
10	24B	KENANSVILLE RUMFORD UCHEE

Field Warnings:

Crop Rotation:

PLANTED	YIELD	CROP NAME
2007-Sp	38.5 bushel(s)	Soybeans (FS) - No Till
2007-Fa	0.0	Wheat (cover) - Tilled
2008-Sp	38.5 bushel(s)	Soybeans (FS) - No Till
2008-Fa	0.0	Wheat (cover) - Tilled
2009-Sp	38.5 bushel(s)	Soybeans (FS) - No Till

Field Name: 26
Total Acres: 75.00 Usable Acres: 75.00
FSA Number: 12
Tract: DOC
Location: Southampton
Slope Class: A Hydrologic Group: C

Riparian buffer width: 0 ft

P-based(1.0)
Phosphorus Limit method: Phosphorus Environmental Threshold (PET) method

Soil Test Results:

DATE	PH	P	K	Lab
Fa-2006	5.7	VH(142 P lbs/acre)	L+(60 K lbs/acre)	Virginia Tech

Soils:

PERCENT	SYMBOL	SOIL SERIES
40	13B	EMPORIA
60	24B	KENANSVILLE RUMFORD UCHEE

Field Warnings:
Environmentally Sensitive Soils due to:

Soils with potential for leaching based on soil texture or excessive drainage

Crop Rotation:

PLANTED	YIELD	CROP NAME
2007-Sp	31.0 bushel(s)	Soybeans (FS) - No Till
2007-Fa	0.0	Wheat (cover) - Tilled
2008-Sp	31.0 bushel(s)	Soybeans (FS) - No Till
2008-Fa	0.0	Wheat (cover) - Tilled
2009-Sp	31.0 bushel(s)	Soybeans (FS) - No Till

Field Name: **28**
Total Acres: 16.00 Usable Acres: 16.00
FSA Number: 9,10
Tract: DOC
Location: Southampton
Slope Class: B Hydrologic Group: B

Riparian buffer width: 0 ft
Distance to stream: 0 ft

P-Index Summary
P-based(1.0)

Soils:

PERCENT	SYMBOL	SOIL SERIES
80	13B	EMPORIA
20	27B	STATE1

Field Warnings:

Crop Rotation:

PLANTED	YIELD	CROP NAME
2007-Sp	148.0 bushel(s)	Corn (grain) - No Till
2007-Fa	0.0	Wheat (cover) - Tilled
2008-Sp	148.0 bushel(s)	Corn (grain) - No Till
2008-Fa	0.0	Wheat (cover) - Tilled
2009-Sp	148.0 bushel(s)	Corn (grain) - No Till

Field Name: **30**

Total Acres: 20.00 Usable Acres: 20.00

FSA Number: 39

Tract: DOC

Location: Southampton

Slope Class: B Hydrologic Group: C

Riparian buffer width: 0 ft

Distance to stream: 0 ft

Conservation Practices:

Pasture (>75% cover)

P-Index Summary

N-based

Phosphorus Limit method: Phosphorus Environmental Threshold (PET) method

Soil Test Results:

DATE	PH	P	K	Lab
Fa-2006	6.4	H+(98 P lbs/acre)	M(124 K lbs/acre)	Virginia Tech

Soils:

Crop Rotation:

PLANTED	YIELD	CROP NAME
2007-Sp	1.3 acres/AU	Orchard grass/fescue pastures<=25% legume, maint. - Tilled
2008-Sp	1.3 acres/AU	Orchard grass/fescue pastures<=25% legume, maint. - Tilled
2009-Sp	1.3 acres/AU	Orchard grass/fescue pastures<=25% legume, maint. - Tilled

Field Name: **32P**

Total Acres: 18.00 Usable Acres: 18.00
FSA Number: 32
Tract: DOC
Location: Southampton
Slope Class: B Hydrologic Group: C

Riparian buffer width: 0 ft
Distance to stream: 0 ft

Conservation Practices:
Pasture (>75% cover)

P-Index Summary
P-based(1.0)
Phosphorus Limit method: Phosphorus Environmental Threshold (PET) method

Soil Test Results:

DATE	PH	P	K	Lab
Fa-2006	5.8	VH(148 P lbs/acre)	H-(202 K lbs/acre)	Virginia Tech

Soils:

PERCENT	SYMBOL	SOIL SERIES
40	2B	ALTAVISTA
60	13B	EMPORIA

Field Warnings:

Crop Rotation:

PLANTED	YIELD	CROP NAME
2007-Sp	1.2 acres/AU	Orchard grass/fescue pastures<=25% legume, maint. - Tilled
2008-Sp	1.2 acres/AU	Orchard grass/fescue pastures<=25% legume, maint. - Tilled

Total Acres:	25.00	Usable Acres:	25.00
FSA Number:	28A		
Tract:	DOC		
Location:		Southampton	
Slope Class:	B	Hydrologic Group:	C

Riparian buffer width: 0 ft
Distance to stream: 0 ft

Conservation Practices:
Pasture (>75% cover)

P-Index Summary
N-based
Phosphorus Limit method: Phosphorus Environmental Threshold (PET) method

Soil Test Results:

DATE	PH	P	K	Lab
Fa-2006	5.8	H(71 P lbs/acre)	M(121 K lbs/acre)	Virginia Tech

Soils:

PERCENT	SYMBOL	SOIL SERIES
80	13B	EMPORIA
20	13C	EMPORIA

Field Warnings:

Crop Rotation:

PLANTED	YIELD	CROP NAME
2007-Sp	1.3 acres/AU	Orchard grass/fescue pastures<=25% legume, maint. - Tilled
2008-Sp	1.3 acres/AU	Orchard grass/fescue pastures<=25% legume, maint. - Tilled
2009-Sp	1.3 acres/AU	Orchard grass/fescue pastures<=25% legume, maint. - Tilled

Field Name: **36P**

Total Acres:	7.00	Usable Acres:	7.00
FSA Number:	37		
Tract:	DOC		
Location:		Southampton	

Distance to stream: 0 ft

Conservation Practices:
Pasture (>75% cover)

P-Index Summary
N-based
Phosphorus Limit method: Phosphorus Environmental Threshold (PET) method

Soil Test Results:

DATE	PH	P	K	Lab
Fa-2006	5.8	H+(93 P lbs/acre)	M(130 K lbs/acre)	Virginia Tech

Soils:

PERCENT	SYMBOL	SOIL SERIES
10	13A	EMPORIA
90	13B	EMPORIA

Field Warnings:

Crop Rotation:

PLANTED	YIELD	CROP NAME
2007-Sp	1.3 acres/AU	Orchard grass/fescue pastures<=25% legume, maint. - Tilled
2008-Sp	1.3 acres/AU	Orchard grass/fescue pastures<=25% legume, maint. - Tilled
2009-Sp	1.3 acres/AU	Orchard grass/fescue pastures<=25% legume, maint. - Tilled

Field Name: **38P**
Total Acres: 16.30 Usable Acres: 16.30
FSA Number: 35
Tract: DOC
Location: Southampton
Slope Class: B Hydrologic Group: C

Riparian buffer width: 0 ft
Distance to stream: 0 ft

Conservation Practices:
Pasture (>75% cover)

Soil Test Results:

DATE	PH	P	K	Lab
Fa-2006	6.5	VH(135 P lbs/acre)	M(120 K lbs/acre)	Virginia Tech

Soils:

PERCENT	SYMBOL	SOIL SERIES
100	13B	EMPORIA

Field Warnings:

Crop Rotation:

PLANTED	YIELD	CROP NAME
2007-Sp	1.3 acres/AU	Orchard grass/fescue pastures<=25% legume, maint. - Tilled
2008-Sp	1.3 acres/AU	Orchard grass/fescue pastures<=25% legume, maint. - Tilled
2009-Sp	1.3 acres/AU	Orchard grass/fescue pastures<=25% legume, maint. - Tilled

Field Name: **40P**

Total Acres: 18.00 Usable Acres: 18.00

FSA Number: 42

Tract: DOC

Location: Southampton

Slope Class: A Hydrologic Group: C

Riparian buffer width: 0 ft

Distance to stream: 0 ft

Conservation Practices:

Pasture (>75% cover)

P-Index Summary

Zero-P

Phosphorus Limit method: Phosphorus Environmental Threshold (PET) method

Soil Test Results:

DATE	PH	P	K	Lab
Fa-2006	6.3	VH(289 P lbs/acre)	M+(165 K lbs/acre)	Virginia Tech

50	26B	SLAGLE
50	26C	SLAGLE

Field Warnings:

Crop Rotation:

PLANTED	YIELD	CROP NAME
2007-Sp	1.0 acres/AU	Orchard grass/fescue pastures<=25% legume, maint. - Tilled
2008-Sp	1.0 acres/AU	Orchard grass/fescue pastures<=25% legume, maint. - Tilled
2009-Sp	1.0 acres/AU	Orchard grass/fescue pastures<=25% legume, maint. - Tilled

Field Name: **42P**

Total Acres: 20.00 Usable Acres: 20.00
FSA Number: 41A
Tract: DOC
Location: Southampton
Slope Class: B Hydrologic Group: C

Riparian buffer width: 0 ft
Distance to stream: 0 ft

Conservation Practices:
Pasture (>75% cover)

P-Index Summary
P-based(1.0)
Phosphorus Limit method: Phosphorus Environmental Threshold (PET) method

Soil Test Results:

DATE	PH	P	K	Lab
Fa-2006	6.3	VH(111 P lbs/acre)	L+(73 K lbs/acre)	Virginia Tech

Soils:

PERCENT	SYMBOL	SOIL SERIES
10	26C	SLAGLE
90	26B	SLAGLE

Field Warnings:

2008-Sp	1.2 acres/AU	Orchard grass/fescue pastures<=25% legume, maint. - Tilled
2009-Sp	1.2 acres/AU	Orchard grass/fescue pastures<=25% legume, maint. - Tilled

Field Name: **45P**

Total Acres: 18.00 Usable Acres: 18.00
FSA Number: 34
Tract: DOC
Location: Southampton
Slope Class: B Hydrologic Group: C

Riparian buffer width: 0 ft
Distance to stream: 0 ft

Conservation Practices:
Pasture (>75% cover)

P-Index Summary
N-based
Phosphorus Limit method: Phosphorus Environmental Threshold (PET) method

Soil Test Results:

DATE	PH	P	K	Lab
Fa-2006	6.3	H(69 P lbs/acre)	M(143 K lbs/acre)	Virginia Tech

Soils:

PERCENT	SYMBOL	SOIL SERIES
30	13B	EMPORIA
70	26B	SLAGLE

Field Warnings:

Crop Rotation:

PLANTED	YIELD	CROP NAME
2007-Sp	1.1 acres/AU	Orchard grass/fescue pastures<=25% legume, maint. - Tilled
2008-Sp	1.1 acres/AU	Orchard grass/fescue pastures<=25% legume, maint. - Tilled
2009-Sp	1.1 acres/AU	Orchard grass/fescue pastures<=25% legume, maint. - Tilled

Field Name: **46P**

Riparian buffer width: 0 ft
Distance to stream: 0 ft

Conservation Practices:
Pasture (>75% cover)

P-Index Summary
N-based
Phosphorus Limit method: Phosphorus Environmental Threshold (PET) method

Soil Test Results:

DATE	PH	P	K	Lab
Fa-2006	6.2	H+(93 P lbs/acre)	M(135 K lbs/acre)	Virginia Tech

Soils:

PERCENT	SYMBOL	SOIL SERIES
100	26B	SLAGLE

Field Warnings:

Crop Rotation:

PLANTED	YIELD	CROP NAME
2007-Sp	1.0 acres/AU	Orchard grass/fescue pastures<=25% legume, maint. - Tilled
2008-Sp	1.0 acres/AU	Orchard grass/fescue pastures<=25% legume, maint. - Tilled
2009-Sp	1.0 acres/AU	Orchard grass/fescue pastures<=25% legume, maint. - Tilled

Field Name: **48P**
Total Acres: 6.00 Usable Acres: 6.00
FSA Number: 22
Tract: DOC
Location: Southampton
Slope Class: B Hydrologic Group: C

Riparian buffer width: 0 ft
Distance to stream: 0 ft

DATE	PH	P	K	Lab
Fa-2006	6.3	VH(114 P lbs/acre)	M(108 K lbs/acre)	Virginia Tech

Soils:

PERCENT	SYMBOL	SOIL SERIES
20	26B	SLAGLE
80	13B	EMPORIA

Field Warnings:

Crop Rotation:

PLANTED	YIELD	CROP NAME
2007-Sp	142.0 bushel(s)	Corn (grain) - No Till
2007-Fa	0.0	Wheat (cover) - Tilled
2008-Sp	142.0 bushel(s)	Corn (grain) - Tilled
2008-Fa	0.0	Wheat (cover) - Tilled
2009-Sp	142.0 bushel(s)	Corn (grain) - No Till

Field Name: **51**

Total Acres: 16.00 Usable Acres: 16.00

FSA Number: 18

Tract: DOC

Location: Southampton

Slope Class: C Hydrologic Group: C

Riparian buffer width: 0 ft

Distance to stream: 0 ft

P-Index Summary

P-based(1.0)

Phosphorus Limit method: Phosphorus Environmental Threshold (PET) method

Soil Test Results:

DATE	PH	P	K	Lab
Fa-2006	6.7	VH(137 P lbs/acre)	M(127 K lbs/acre)	Virginia Tech

Soils:

20	27B	STATE1
80	5B	BOJAC1

Field Warnings:
Environmentally Sensitive Soils due to:

Soils with potential for leaching based on soil texture or excessive drainage

Crop Rotation:

PLANTED	YIELD	CROP NAME
2007-Sp	4.1 tons	Bermudagrass (hay), maint. - No Till
2008-Sp	4.1 tons	Bermudagrass (hay), maint. - Tilled
2009-Sp	4.1 tons	Bermudagrass (hay), maint. - Tilled

Field Name: **8**

Total Acres:	33.00	Usable Acres:	33.00
FSA Number:	31		
Tract:	DOC		
Location:		Southampton	
Slope Class:	A	Hydrologic Group:	B

Riparian buffer width: 0 ft
Distance to stream: 0 ft

P-Index Summary
N-based
Phosphorus Limit method: Phosphorus Environmental Threshold (PET) method

Soil Test Results:

DATE	PH	P	K	Lab
Fa-2006	6.9	H-(48 P lbs/acre)	M-(82 K lbs/acre)	Virginia Tech

Soils:

PERCENT	SYMBOL	SOIL SERIES
60	6A	BUNCOMBE
40	13B	EMPORIA

Crop Rotation:

PLANTED	YIELD	CROP NAME
2007-Sp	150.0 bushel(s)	Corn (grain) - No Till
2007-Fa	0.0	Wheat (cover) - Tilled
2008-Sp	150.0 bushel(s)	Corn (grain) - No Till
2008-Fa	0.0	Wheat (cover) - Tilled
2009-Sp	150.0 bushel(s)	Corn (grain) - No Till

Tract Name: ~~Default Tract~~
~~FSA Number: 0~~
~~Location:~~
~~Montgomery~~