Poultry Waste Management Regulation
Technical Advisory Committee
Meeting Minutes

April 25, 2008
10:00 - 3:00 PM
Department of Forestry, Charlottesville

Technical Advisory Committee Members and Staff Support:

Name	Affiliation	Present
Hobey Bauhan	Virginia Poultry Federation	Yes
Katie K. Frazier	Virginia Agribusiness Council	Yes
Wilmer Stoneman	Virginia Farm Bureau Federation	Yes
Bill McKinnon	Virginia Cattleman's Association	Yes
Mark Palmer	Virginia Association of Soil and Water Conservation Districts	Yes
Becky Barlow	Shenandoah Resource Conservation & Development	Yes
Scott Johnson	Dept .of Agriculture and Consumer Services	Yes
Danny Sutton	Tyson Foods, Inc.	Yes
Roger Phillips	Perdue Incorporated	No
John F. Davis	Camden Farms	No
Edward Mullins	Nottoway County Poultry Grower	Yes
Tom Thacker	Augusta County Poultry Grower	Yes
Mark Deavers	Deavers Lime & Litter LLC	Yes
Kristen Hughes	Chesapeake Bay Foundation	Yes
Jeff Kelble	Shenandoah RiverKeeper	Yes
Chuck Frederickson	James River Association	Yes
David Kindig	Department of Conservation and Recreation	Yes
Russ Perkinson	Department of Conservation and Recreation	Yes
Betsy Bowles	Department of Environmental Quality	Yes
Neil Zahradka	Department of Environmental Quality	Yes
Gary Flory	Department of Environmental Quality	Yes

Others Present:

Name	Affiliation
Jack Frye	Department of Conservation and Recreation
Robert Peer	Department of Environmental Quality
Tony Banks	Virginia Farm Bureau Federation
Heather Horne	Department of Environmental Quality
Joe Garner	Department of Environmental Quality
Darrell Marshall	Department of Agriculture and Consumer Services
Daryl Bishop	General Manager, Pepco Energy Services
Donald Bishop	Cumberland County Poultry Grower
John Zirkle	Virginia Farm Bureau Board Virginia Poultry Growers Cooperative, Inc.

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The meeting was opened by Betsy Bowles, the DEQ Animal Feeding Operations Program Coordinator. The advisory protocol document, which was provided to the technical advisory committee (TAC) members and the public, was discussed briefly. The members were asked to introduce themselves and share their expectations of this regulatory process. The agenda was reviewed.

Neil Zahradka, the Manager of the DEQ Office of Land Application Programs, gave a presentation summarizing the existing regulation as well as the background and summary of the Secretary of Natural Resources Stakeholder Group meetings that were held last year. Mr. Zahradka reviewed the memorandum to the TAC from the Secretary of Natural Resources dated April 23, 2008 (attachments: April 23, 2008 Memo, January 10, 2007 letter, Interim report).

Ms. Bowles explained the documents that were provided to the members and made available to the public attendees. A summary of the Notice of Intended Regulatory Action (NOIRA) and the comments received regarding the NOIRA was presented. A copy of each of the comments was provided to the committee members as well as made available to the public attendees.

A prioritization exercise was used to determine the order in which the outstanding issues, outlined in the morning presentation, be addressed by the committee. The eight items listed below were prioritized by the committee members as follows.

Item	Priority
Regulatory Mechanism	1
Soil Tests	2
Reporting/ Recordkeeping	3
Application Rate	4
Litter Broker Requirements	5
Storage	6
Application Timing	7
Implementation Timeline	8

The regulatory mechanism by which the Department of Environmental Quality will use to regulate end-users of poultry waste was determined to be the first priority of the technical advisory committee members. The members were asked to present their concepts and ideas concerning the subject of a regulatory mechanism. The afternoon group discussion was devoted to the issues relating to the regulatory mechanism.

The discussion involved revising and utilizing the DEQ Poultry Litter Storage and Utilization Fact Sheet which has been in use since 2000 as an educational tool (attached); enhancing litter transfer tracking and accountability; exploring the permit-by-rule concept; and requiring soil tests versus nutrient management plans. Several of the members expressed interest in using a complaint driven type of mechanism similar to the Agriculture Stewardship Act (ASA) or utilize the ASA. Others had concerns that any permit, whether it is a permit by rule, an individual permit or a general permit, is still a permit that increases regulatory requirements and may affect litter movement. Many of the members commented that the information provided to DEQ concerning the litter transfers and the end-users could be increased.

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The committee requested that a presentation be made concerning the Agricultural Stewardship Act (ASA) administered by the Virginia Department of Agricultural and Consumer Services. The ASA Coordinator, Darrell Marshall, agreed to give a presentation concerning this program at the next meeting of the technical advisory committee.

The technical advisory committee made no final recommendations to staff regarding the regulatory mechanism. This item will be discussed further at the next meeting.

Public Participation
Time was allotted for the public to make comments to the committee. Two citizens signed up to address the technical advisory committee.

Mr. Donald Bishop is a breeder/ layer grower in Cumberland County for Tyson. Mr. Bishop invited the committee members to an informational meeting regarding a feasibility study for an anaerobic digester which would serve a five county area and utilize poultry litter from area poultry farms as feedstock. Mr. Bishop stated that as a producer he would not like the end-user to be regulated so that he would be limited to whom he could transfer his litter.

Mr. John Zirkle is a Virginia Farm Bureau Board Member representing the northern part of the Shenandoah Valley: Shenandoah and Paige Counties. He is also a Turkey Tom grower for the Virginia Poultry Growers Cooperative for which he is also part owner. Mr. Zirkle shared his thoughts concerning water and soil quality and current farming practices as well as the influences of past farming practices on the soil.

Set Next Meeting Location and Date
The first choice is June 5th the second choice is June 2nd location to be determined based on availability.

The next meeting has since been scheduled for June 5th, 2008 at 9:30 AM located at the Albemarle Department of Fire Rescue building at 260 Stagecoach Road in Charlottesville, VA.

Attachments:

1. Memorandum from L. Preston Bryant, Jr., Secretary of Natural Resources, dated April 23, 2008 (2 pages)

2. Letter from L. Preston Bryant, Jr., Secretary of Natural Resources, dated January l0, 2007 (3 pages)

3. Off-Site Management of Poultry Litter Stakeholder Group Interim Report, dated July 31, 2007 (9 pages)

4. DEQ Poultry Litter Storage and Utilization Fact Sheet (3 pages)

COMMONWEALTH of VIRGINIA

Office of the Governor

L. Preston Bryant, Jr.
Secretary of Natural Resources

P.O. Box 1475
Richmond, Virginia 23218

April 23, 2008

MEMORANDUM

TO: Members, Technical Advisory Committee - Transfer and Off-Site Management of Poultry Litter in the Commonwealth of Virginia

FROM: L. Preston Bryant, Jr.

SUBJECT: Charge of the Technical Advisory Committee

First, let me thank all of you for agreeing to participate in this Technical Advisory Committee (TAC) and make available your time and expertise to assist the Department of Environmental Quality (DEQ) with this regulatory endeavor.

Since some of you may not have participated in earlier discussions regarding the issue of off-site transfers and management of poultry litter, while others have indeed been closely involved, I offer this memorandum to provide all of the members with some background on this matter and emphasize the desired outcome of the TAC's work.

Off-Site Poultry Litter Management

Earlier in 2007, prior to the start of the legislative session, I convened a meeting of agency personnel and agriculture industry representatives to discuss draft legislation to better protect water quality from improper management of poultry litter, specifically litter that is transported off of the permitted poultry growing operation where the litter is generated. Subsequent to the meeting, and as a result of the many concerns voiced by the agriculture industry, I sent a letter dated January 10, 2007, stating that, in lieu of legislative action, key stakeholders should convene to address several issues of concern including (i) proper application of litter to protect water quality and requirements for nutrient management plans under certain situations, (ii) proper storage of poultry litter, (iii) procedures to track and account for litter from the generator to end-user and means to verify proper application by the end-user, and (iv) options to prevent "stranding" of litter on growers' farms. The letter also requested an interim report be sent to both Secretary Bloxom and me by August 1, 2007.

A diverse stakeholder group, chaired by my Assistant Secretary of Natural Resources Jeff Corbin, met three times during the spring and summer of 2007. While it was never the intent to achieve consensus on all issues, considerable progress was made toward defining the positions of the various stakeholders with respect to a variety of issues. An interim report was submitted to Secretary Bloxom and me on July 31, 2007, that summarized the progress of the stakeholder group and identified outstanding issues that remained.

Upon review of the interim report, it was determined that a rulemaking process would be undertaken to solidify the progress made as well as to further vet the remaining outstanding issues. I believe that DEQ has assembled a diverse, balanced, and highly qualified TAC to accomplish this task.

Charge of the Technical Advisory Committee

I wish to emphasize that a great deal of robust discussion already has occurred as a result of the stakeholder group's previous work. I do not wish for the TAC to start with a blank sheet or spend considerable time rehashing issues. The focus of this Committee is to bring closure to the outstanding issues and formulate a regulatory mechanism that adequately protects our waters from improper management of poultry waste while minimizing any adverse impacts to Virginia's poultry industry.

I encourage the TAC to review the letter that I issued on January 10, 2007, outlining the critical issues as well as the July 31, 2007, interim report from the Stakeholder group, both of which are attached.

Governor Kaine and I are committed to protecting the waters of this Commonwealth. I am confident that the TAC can formulate a strategy for adequately addressing the challenges of off-site poultry litter management while maintaining the vitality of Virginia's poultry industry.

I thank you again and look forward to monitoring the progress of the TAC.

LPBjr/cbd

Attachments

c: The Honorable Robert S. Bloxom, Secretary of Agriculture and Forestry
Jeff Corbin, Assistant Secretary of Natural Resources

COMMONWEALTH of VIRGINIA

Office of the Governor

L. Preston Bryant, Jr.
Secretary of Natural Resources

P.O. Box 1475
Richmond, Virginia 23218

January 10, 2007

Mr. Hobey P. Bauhan
President
Virginia Poultry Federation
333 Neff Avenue, Suite C
Harrisonburg, Virginia 22801

Ms. Ann F. Jennings
Virginia Executive Director
Chesapeake Bay Foundation
1108 East Main Street, Suite 1600
Richmond, Virginia 23219

Mr. Wilmer N. Stoneman, III
Assistant Director, Government Relations
Virginia Farm Bureau
Post Office Box 27552
Richmond, Virginia 23261-7552

Mr. William H. Street
Executive Director
James River Association
Post Office Box 909
Mechanicsville, Virginia 23111

Ms. Katie K. Frazier
Assistant Vice President - Public Affairs
Virginia Agribusiness Council
Post Office Box 718
Richmond, Virginia 23218

Dear Hobey, Wilmer, Katie, Ann, and Bill:

Thank you for meeting last Friday afternoon to discuss potential legislation to require nutrient management plans or general poultry waste application requirements for end-users of poultry waste. I thought the meeting was productive.

Based on the discussion at the meeting, it appears the majority of agricultural industry representatives would like to have extra time for a work group composed of state government representatives and stakeholders to work out details for a process to ensure that poultry waste is stored and applied properly.

After consulting with agency staff, I am willing to forgo introducing legislation this session if key stakeholders will commit to addressing the following issues over the coming year:

1. Assurances that poultry waste is applied using rates, times, and methods that are protective of water quality on all sites, and requirements for an NMP on sites where phosphorus levels exceed certain thresholds and other higher-risk situations;

2. Requirements that all poultry waste is stored properly in a manner that is protective of water quality;
3. Procedures to track and account for poultry waste from generator to end-user and some means to verify actions by the end-user; and
4. Related options to prevent the "stranding" of litter on growers' farms.

These are the issues that have come most immediately to mind, reflecting on our meeting and discussions last week. Should you have other items to be included for the stakeholder committee to address, please suggest them.

The stakeholder committee should work on a specific schedule. Thus, I would propose the following timeframe for the committee:

- First committee meeting to be held by March 15, 2007.
- Committee to submit interim report to Secretaries of Natural Resources and Agriculture and Forestry by August 1, 2007.
- Committee to submit final report and recommendations to Secretaries of Natural Resources and Agriculture and Forestry by October 1, 2007.

After receiving the report and the suggested management framework in October, I will, in consultation with Secretary Bloxom, determine what actions to pursue in the 2008 session of the General Assembly.

I also propose that the same groups that participated in Friday's meeting nominate one or more representatives to serve on the committee. I hope you will respond to this letter with your suggested participants, any additional items to address, and a commitment to work diligently on these issues according to the schedule outlined above. Please send me your response by January 16, 2007.

On a related matter, the Virginia Poultry Federation has previously committed that each individual integrator will develop an MOU with the Commonwealth to establish targets for phosphorus reduction in poultry waste through feed management technologies, and that a poultry litter transport program will be implemented totaling $450,000 from the industry and $450,000 from the Commonwealth over three years. The Department of Conservation and Recreation will work with the poultry industry on these two commitments and to keep me appraised of progress.

As a result of our meeting last week, I do believe this represents the most prudent course of action at this time. I hope you agree.

Again, thank you for your willingness to meet with us. I look forward to hearing from you soon, and I look even more forward to our working collaboratively to craft a solution to these important issues.

Sincerely,

L. Preston Bryant, Jr.

LBPJr/cbd

c: The Honorable Robert S. Bloxom, Secretary of Agriculture and Forestry
Jeffrey M. Corbin, Assistant Secretary of Natural Resources
Joseph H. Maroon, Director, Department of Conservation and Recreation
David K. Paylor, Director, Department of Environmental Quality
Maribel E. Ramos, Special Assistant-Policy Office, Office of the Governor
Steven P. Gould, Senior Special Assistant-Policy Office, Office of the Governor

Off-Site Management of Poultry Litter

Interim Report

July 31, 2007

In response to a letter dated January 10, 2007 from L. Preston Bryant, Jr., Virginia Secretary of Natural Resources, (see attached) a stakeholder group comprised of key representatives from the agricultural and conservation sectors (see attached list of members) met three times - March 13th, May 18th and June 22nd - to discuss issues related to the management of off-site poultry litter. Jeff Corbin, Virginia Assistant Secretary of Natural Resources chaired the meetings. Staff from both the Department of Environmental Quality (DEQ) and Department of Conservation and Recreation (DCR) provided critical technical and policy expertise.

As directed by Secretary Bryant's letter this report fulfills the requirement that an "Interim Report" be submitted to both the Secretary of Natural Resources and the Secretary of Agriculture and Forestry by August 1, 2007.

Legislative/Regulatory Background

In 1999, the Virginia General Assembly passed House Bill 1207 (*62.1-44.17:1.1*), establishing the Virginia Poultry Waste Management Program. The Act required the State Water Control Board to develop a regulatory program governing the storage, treatment and management of poultry waste, including dry litter, that would:

1. Require the development and implementation of nutrient management plans for any person owning or operating a confined poultry feeding operation;

2. Provide for waste tracking and accounting; and

3. Ensure proper storage of waste consistent with the terms and provisions of a nutrient management plan.

The program also established provisions for issuing general permits (Virginia Pollution Abatement permits) to "confined poultry feeding

operations" with 200 or more animal units (20,000 chickens or 11,000 turkeys).

In recent years, there has been interest expressed, by the public, legislature and executive branch, to provide additional safeguards to ensure that off-site poultry litter - that which leaves the site of the permitted confined poultry feeding operation and is land applied elsewhere - is managed, applied and stored in a manner that is protective of water quality.

Currently, Virginia regulations require that poultry litter applied on lands owned by the permitted owner/operator of a confined poultry feeding operation be done so in accordance with a state nutrient management plan. Permitted operations are inspected annually.

Conversely, poultry litter that is transferred off-site is only required to be accompanied by waste analysis information and a fact sheet (developed by DEQ and DCR) that provides the recipient with general provisions regarding the storage, management and application of the litter. The end-user must acknowledge receipt of the fact sheet by signing a separate "Poultry Waste Transfer Records" sheet. Maintenance of records, including the date and amount of the transfer, zip code of the location receiving the off-site litter and nearest stream or waterbody, is the requirement of the owner/operator of the confined poultry feeding operation (or third-part broker if one was involved in the transaction). Records must be made available to DEQ personnel upon inspection of the confined poultry feeding operation.

For off-site application of poultry litter, the present regulatory program does *not* require records of 1) the amount of waste received by a single farm, 2) whether or not the litter will be applied in accordance with a nutrient management plan, 3) soil test levels on receiving fields, 4) timing of applications, or 5) a description of receiving crops.

According to agency estimates, upwards of 80% of all poultry litter generated by Virginia's 940 permitted confined poultry feeding operations is transported off-site for land application – more than 308,000 tons in 2004-2005. In addition, upwards of 70% of the litter transferred within the Shenandoah Valley remains within the concentrated poultry production region of the Valley (Rockingham, Page, Augusta, Shenandoah, Rockbridge, and Highland counties) and 67% of all the litter transfers in Virginia remain within the same county where the litter originated.

Statutory Authority

Va. Code § 62.1-44.17:1.1 authorizes the State Water Control Board to establish and implement the Poultry Waste Management Program. This Code section provides provisions that the Board must, at a minimum, include in its regulations developed pursuant to this authority. In addition to these mandatory provisions, subsection D provides the Board broad discretion to include in its regulations any provisions necessary to protect state waters It provides:

> D. The [Poultry Waste Management regulatory] program shall reflect Board consideration of existing state-approved nutrient management plans and existing general permit programs for other confined animal feeding operations, *and may include such other provisions as the Board determines appropriate for the protection of state waters*. (emphasis added.)

This subsection provides to the Board the requisite authority to regulate-end users of poultry litter, as well as any other entity or activity related to poultry litter generation, storage or use in order to protect state waters.

Phosphorus Imbalance

In the counties of Accomack, Northampton, Page, and Rockingham, 50% or more of the soil samples submitted to the Virginia Tech Soil Testing laboratory contain "very high" levels of soil phosphorus. With the exception of some vegetable crops and tobacco, Virginia Tech recommends no additional fertilizer phosphorus applications for soils testing at that level.

Historically, phosphorus loss from agricultural land application was addressed primarily by reducing soil erosion. However, research over the last decade has shown that soils highly saturated with phosphorus are likely to lose phosphorus to the environment, even in the absence of soil erosion.

Poultry litter typically contains almost as much phosphorus as total nitrogen, while most crops require much less phosphorus than nitrogen – thus creating an imbalance between crop needs and litter nutrient content. Therefore, poultry litter applied at rates sufficient to meet the nitrogen requirements of a crop will provide, on average, two or three times the phosphorus needs of the crop. The current pricing structure (especially when the distance of the litter transfer is small) favors litter application rates that supply, or even exceed, the nitrogen requirements of the crop.

Neighboring State Requirements

Maryland requires any farmer with at least eight animal units, or that generates more than $2,500 annually in gross income from farming, to develop and implement a nutrient management plan - essentially requiring 100% of Maryland's farmers, except for very small part-time operations, to implement nutrient management plans. This requirement impacts all nutrient sources, including poultry litter.

In Delaware, state law requires that "all animal feeding operations with greater than eight animal units or any person who owns, leases or otherwise controls property in excess of 10 acres upon which nutrients are applied shall develop and implement a nutrient management plan...." As in Maryland, this is the practical equivalent of requiring almost all Delaware farmers to implement nutrient management plans for poultry litter and all other nutrient sources.

Pennsylvania's nutrient management law and regulations more closely resemble Virginia's current requirements, in that confined animal feeding operations of 300 or more animal units must have a nutrient management plan. However, Pennsylvania also expands the requirement to operations that exceed a density threshold of two animal units per acre of land (owned or rented) used for manure application. In addition, effective October 1, 2006, Pennsylvania requirements were expanded to include the management of off-site litter, including: (1) signed agreements with importing operations, (2) nutrient balance sheets addressing both nitrogen and phosphorus for all fields receiving transferred manure, (3) maps of all application sites, (4) manure application setbacks from environmental features, and (5) state certification of all manure haulers and brokers.

Pennsylvania's nutrient balance sheet-approach for off-site litter management is designed to be a streamlined process. However, a full nutrient management plan is required for certain end-users and others may opt for a full nutrient management plan if they desire flexibility from the application rate limitations contained in the less detailed nutrient balance sheets. The manure exporter is required to maintain copies of all signed agreements, nutrient balance sheets (or nutrient management plans), and maps of all end-user sites.

Virginia Stakeholder Group

In early 2007, to address the issue of off-site poultry litter management, Secretary Bryant convened a meeting of agricultural and conservation

organization representatives to discuss possible legislative revisions to the current Poultry Waste Management Program. Subsequent to the meeting, as a result of the many concerns voiced by the agriculture industry, Secretary Bryant sent a letter, dated January 10, 2007, (see attached) stating that, in lieu of legislative action, key stakeholders should convene to address several issues of concern including: 1) proper application of litter to protect water quality and requirements for nutrient management plans under certain situations, 2) proper storage of poultry litter, 3) procedures to track and account for litter from the generator to end-user and means to verify proper application by the end-user, and 4) options to prevent "stranding" of litter on grower's farms.

The first meeting of the Off-Site Poultry Litter Management Stakeholder Group took place on March 13th in the Governor's cabinet conference room and met 2 additional times in Charlottesville on May 18th and June 22nd. Assistant Secretary Corbin chaired the meetings.

While it was never the intent to achieve consensus on all issues, considerable progress was made toward defining the positions of the various stakeholders with respect to a variety of issues. One issue on which consensus was reached is the importance of expanded cost-share funding at both the state and federal level for agricultural conservation practices, particularly for nutrient management plan development and implementation.

Early on in the stakeholder group discussions, agricultural representatives emphasized that the implementation process must be simple and flexible so as not to discourage the use of poultry litter.

Near the end of the first meeting it was suggested, by a representative of the agriculture community, that if any additional requirements were to be imposed upon the management of off-site poultry litter, that the group should explore implementation of the "fact sheet approach" that currently accompanies litter transfers under the requirements of the Poultry Waste Management Program. Therefore, the remainder of the stakeholder groups' efforts were centered on revisions to the current litter transfer fact sheet ("Poultry Litter Storage and Utilization Fact Sheet").

It should be noted, however, that the agricultural community (Virginia Agribusiness Council in particular) recommends that the Commonwealth consider incentive-based solutions (as opposed to additional regulatory requirements) to encourage poultry litter end-users to implement nutrient management plans and the Fact Sheet.

Following the second meeting of the stakeholder group, Assistant Secretary Corbin requested that stakeholders submit written comments on issues that had been discussed thus far. Comments were received from 8 stakeholder representatives with comments/suggestions/concerns falling within the following categories: 1) Spreading/Application Schedule, 2) Applicability (size of operation, amount of litter used, expansion to other types of fertilizer – organic and commercial, etc.), 3) Compliance, 4) Storage, 5) Soil Test Requirements, 6) Record-Keeping/Reporting, 7) CAFOs, 8) Inspections, 9) Brokers, and 10) Incentives.

Two issues in particular deserve additional attention in this report – compliance and level-playing-field. With the exception of the Virginia Farm Bureau, who opposes the need for any additional requirements on off-site poultry litter and questions the Commonwealth's regulatory and statutory authority to impose additional requirements, there was general agreement that if the Commonwealth were to pursue additional regulatory requirements for the management of off-site poultry litter, that the most efficient compliance mechanism would be via a "permit-by-rule" type approach. Under such an approach, off-site litter users simply need to comply with the regulatory requirements to obtain coverage - they neither "apply" for coverage nor are they issued a permit.

The issue of level-playing-field – that is, whether to place additional requirements solely on poultry litter or expand coverage ("level the playing field") to all forms of fertilizer including other manures as well as commercial products - was raised at the first stakeholder meeting and discussed at all subsequent meetings. This issue presented a clear divide between representatives of the agriculture community with the poultry industry supporting a level playing field and the Farm Bureau and Agribusiness Council opposing such a measure. Given the focus of Secretary Bryant's directive on poultry litter, and questions concerning the current authority of the state agencies to regulate other fertilizers, it was decided that the current initiative would focus solely on off-site poultry litter.

Draft Requirements for Off-Site Application of Poultry Litter

The Poultry Litter Storage and Utilization Fact Sheet that is currently used in accordance with the existing Poultry Waste Management Program was used as the draft vehicle for incorporating additional requirements for the management of off-site poultry litter (see attached).

In summary, the major revisions to the fact sheet include the following:

1. Soil Samples – Whereas the current fact sheet recommends soil sampling to determine proper litter application rates, the proposed changes would require soil sampling (not less than 3 years old).
2. Application Rates – Whereas the current fact sheet provides a calculation for determining the appropriate litter application rate, the proposed changes provide 2 separate tables of pre-defined application rates based on the soil phosphorus levels (provided from soil samples). Higher "Tier I Application Rates" are provided for soils with Medium+ or lower soil phosphorus levels and lesser "Tier II Application rates" are provided for soils with higher soil phosphorus levels. End-users that wish to apply poultry litter at rates which exceed those provided under Tier I or II must do so in accordance with a nutrient management plan prepared by a Virginia certified nutrient management planner.
3. Storage – Requirements have been revised to better align with the litter storage requirements for permitted confined animal feeding operations.
4. Manure Application Balance Summary – This is a new requirement for end-users to document (on a sheet provided) the date, location, amount, and application rate of litter as well as the crops to which the litter was applied.

Outstanding Issues

While the stakeholder group made significant progress toward identifying numerous critical components of an off-site litter management program, there remain additional unresolved issues, including:

1. Application Rates
   - While the revised fact sheet provides for 2 separate tiers of litter application rates, some members of the stakeholder group questioned whether the appropriate crop yields were being used to calculate the application rates – thereby resulting in rates that were either too high or too low.
2. Application Timing
   - Some agricultural representatives recommend additional flexibility regarding the allowable timing of litter application to various crops.
3. Reporting/Recordkeeping
   - Who maintains records? (permitted grower, broker, end-user)

- Will records be retained on-site or submitted to appropriate agency (and at what frequency of submittal?)
- Simplicity of data collection/retention/submittal.
- Course of action for non-compliance (incomplete records, non-submittals, etc.).

4. Storage
   - Must long-term litter storage (> 180 days) be "under roof" or are equally protective, less costly/onerous options available?
5. Soil Tests
   - Soil test data is critical to determining appropriate litter application rates, but must the data be submitted/reviewed prior to an end-user receiving litter or can it be done post facto?
6. Inspections
   - Will inspections be performed randomly? Will the priority of inspections be based upon review of submitted recordkeeping information? Will inspections be complaint-driven? All of the above?
7. Litter Broker Requirements
   - Some increased level of accountability for brokers is warranted, but details were not discussed by the stakeholder group. What would a litter broker registration/licensing program entail?

These outstanding issues would be further refined by a technical advisory committee if regulatory revisions are pursued.

Poultry Litter Transport Incentive Program

It should be noted that in conjunction with possible additional requirements governing the off-site management of poultry litter, the Commonwealth and Virginia's poultry industry are finalizing an equal matching grant program that will provide monetary incentives to transfer poultry litter to lands that can better accommodate its use as a fertilizer. The program will operate in tandem with the federal NRCS program to leverage existing funds. The pilot program will be administered by DCR and hopefully commence in the fall of 2007. As currently proposed, a total of $200,000 (50/50 split between the Commonwealth and poultry industry) will be provided annually for the 3 years. A presentation detailing the components of the proposed program was provided at the third meeting of the stakeholder group.

Next Steps/ Staff Recommendation

At the third meeting of the stakeholder group on June 22nd Assistant Secretary Corbin informed the group that the Secretary of Natural Resources Office, through the Department of Environmental Quality, would likely initiate a rulemaking process to implement the changes discussed by the stakeholder group. To assist the Department with that endeavor, a Technical Advisory Committee would be convened to gather input from a wide range of affected stakeholders. Policy experts from the Department of Environmental Quality anticipate that completion of the regulatory revision process, barring any unforeseen setbacks, would take approximately nine months. Therefore, allowing for some downtime during the 2008 legislative session, issuing a Notice of Intended Regulatory Action (NOIRA) late this summer would result in final regulations being ready for consideration by the State Water Control Board in the summer of 2008.

To reemphasize, the issues highlighted in this report were the topic of rather robust discussion by stakeholder group members. The proposed changes outlined in this report do not represent a consensus opinion of the entire stakeholder group. Numerous outstanding issues will require further deliberation by a Technical Advisory Committee if regulatory revisions are pursued.

VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY

Poultry Litter Storage and Utilization Fact Sheet

Use poultry litter in a manner consistent with this fact sheet or as specified in a nutrient management plan prepared by a Virginia certified Nutrient Management Planner. If poultry litter is sold or given away for land application outside of Virginia, follow this fact sheet or the receiving state's regulations, whichever is most restrictive. If litter is to be use for purposes other than land application to crops (e.g. composting or animal feeding), these uses may be subject to other state laws or regulations. State regulations require that each person who receives litter from a poultry grower or a litter broker must receive a copy of the latest nutrient analysis for that litter. Apply poultry litter so that the nitrogen needs of the crop are not exceeded. For fields which soil test very high (VH) in phosphorus, apply litter based on crop removal of phosphorus for a two-year rotation, as long as nitrogen is not over-applied to the crop following the litter application. Do not apply additional phosphorus to these fields, from any source, during the two year rotation. In all other cases, litter may be applied on fields to supply nutrients based on soil test recommendations. Apply poultry litter as close as possible to planting times or to an actively growing crop or cover crop to ensure proper nutrient utilization and to minimize loss to the environment.

Litter Storage

Litter that is not immediately land applied must be stored properly. If poultry litter needs to be stored prior to use, follow these criteria:

- A litter storage area that provides adequate storage capacity and does not pose undue environmental risk to water quality should be pre-determined prior to receiving a shipment of poultry litter.

- Storage sites for litter may be utilized if the slope is not greater than 7% and the site is 100 feet from surface water, intermittent drainage, wells, sinkholes, and rock outcrops. If stored outside longer than 14 days, the litter must be covered with an impermeable barrier that will resist wind, and be protected from storm water running onto or under it. When applying or using litter, be sure to remove all residue from the storage area and the surrounding ground. Proper cleanup means no waste and protects water quality!

- Store litter in areas where the ground water table is at least 2 feet deep year round. If storage is desired where the water table is as shallow as 1 foot, install an impermeable barrier under the litter. Construct impermeable barriers using at least 12 inches of compacted clay, at least 4 inches of reinforced concrete, or another material of similar structural integrity which has a minimum permeability rating of 0.0014 inches per hour ($1x10^{-6}$ centimeters per second). Do not store litter where the water table is less than one foot deep, even when using an impermeable barrier.

Soil Samples

To determine the proper litter application rate (and to use poultry litter to obtain the best economic benefit), soil sample fields where poultry litter will be applied.

- Soil samples should be taken in late summer or fall. Do not take soil samples immediately after applying lime or fertilizer; wait several months for best results. Send samples well in advance of the need for recommendations.
- Contact your local Virginia Cooperative Extension Service office for soil sampling materials and instructions on proper sampling methods.

Calculating Litter Application Rate

When soils test very high (VH) in phosphorus, do the following calculations to obtain the proper litter application rate:

1. Determine the N and P_2O_5 requirements (pounds per acre) for the crop from the table below. Determine N need for the current crop (do not forget to credit N from previous legume crops), and P_2O_5 removal for the two-year crop rotation.
2. Divide the N and P_2O_5 requirements by the N and P_2O_5 content of the litter (Pounds per ton from the litter analysis). Remember, use available nitrogen, not total nitrogen. This will give you the amount of litter needed by the crop for each nutrient in tons per acre.
3. If the P_2O_5 application rate is less than the N application rate, then the P_2O_5 rate is the total amount that can be applied. Additional nitrogen will have to be supplied through supplemental applications of commercial nitrogen.
4. If the P_2O_5 application rate is more than the N application rate, then use the nitrogen application rate. The remaining P_2O_5 can be applied to other crops in the rotation.

Typical Crop Nutrient Removal

	Per Unit of Yield			Average	Removal for Given Yield (lb/acre)		
Crop (Unit Yield)	N	P_2O_5	K_2O	Acre Yield	N	P_2O_5	K_2O
Alfalfa (ton)[1]	45	10	45	4	180	40	180
Barley Grain (bu)[3]	1.25	0.375	0.25	80	100	30	20
Barley Silage (ton)[3]	12.5	5	10	8	100	40	80
Corn Grain (bu)	1.1	0.35	0.27	120	130	42	32
Corn Silage (ton)	7.65	4.7	8.3	17	130	80	141
Cotton seed & lint (lbs)	0.04	0.013	0.01	1500	60	20	15
Grain Sorghum (bu)	1	0.41	0.25	100	100	41	25
Hay (ton)[2]	53.3	18	52	3	160	54	156
Hay/Pasture (ton)[2]	60	19	52	2	120	38	104
Pasture					60	30	60
Rye Silage (ton)[3]	16.6	6.67	21.8	6	100	40	131
Soybeans (bu)[1]	3.75	0.88	1.42	40	150	35	57
Wheat (bu)[3]	1.25	0.56	0.61	80	100	45	49

[1]Legumes fix all their required nitrogen. However, they also have the capability to utilize nitrogen as indicated.
[2]Use hay rate if two or more cuttings occur. Use hay/pasture rate if only one cutting occurs and animals are then pastured.
[3]Apply no more than 40 lbs plant available nitrogen per acre in the fall.
To adjust crop removal for your yield, average the highest three yields from the last five years of yield data and multiply this figure by the per unit value for the crop.

Example:

A field in a corn/wheat/beans rotation tests very high (VH) in Phosphorus, so we calculate to determine the proper application rate of poultry litter.

P_2O_5 Crop Removal for 2 year rotation:

1st Crop Corn		2nd Crop Wheat		3rd Crop Soybeans		Crop Removal		P_2O_5 Litter Content (from analysis)		Litter application rate for P_2O_5
42	+	45	+	35	=	122 lbs/ac	÷	65 lbs/ton	=	1.87 tons/ac

N Requirement for current crop: Corn = 130 lbs/ac

Crop Need		N credit from beans (0.5 lb N x 40 bu)	Net N Required		N Litter Content (from analysis)		Litter application rate for N
130 lbs/ac	–	20 lbs/ac	= 110 lbs/ac	÷	37 lbs/ton	=	2.97 tons/ac

Based on these calculations, the litter application rate allowed in this example is 1.87 tons/ac (the P_2O_5 rate). At this rate, the litter will not supply the total N needs of the corn crop. 1.87 tons litter X 37 lbs N/ton = 69 lbs N/ac, which is 41 lbs N/ac below crop need. The remaining 41 lbs/ac N required by the corn crop could be applied, for example, at sidedress time. It is always wise to perform a pre-sidedress nitrate test (PSNT) when using organic sources of nutrients. Check with your regional DCR office or local Extension office for additional help in determining the proper application rate.

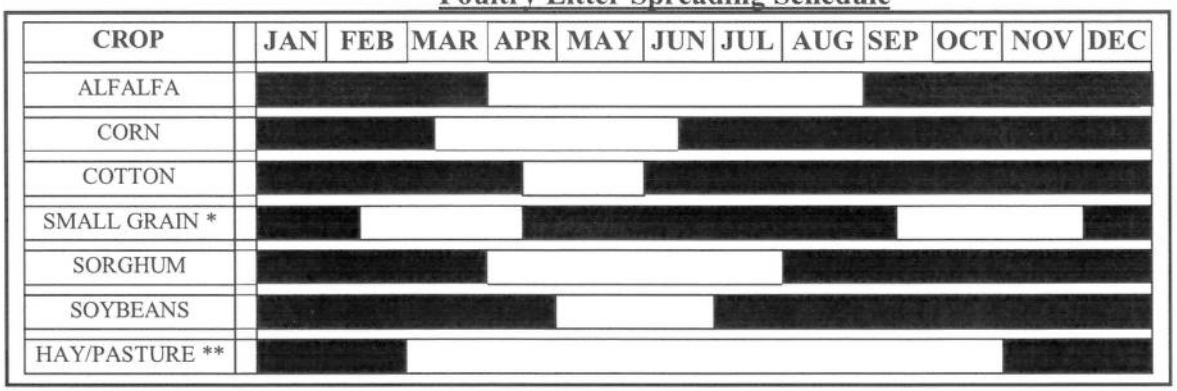
Land Application Conditions & Setbacks

Do not spread litter when field conditions would encourage runoff (i.e. saturated, or snow or ice covered). Application of poultry litter on fields with slopes greater than 15% should be avoided. If pasture and hay fields with slopes greater than 15% are receiving applications of poultry litter, maintain a forage height of at least 3 inches in order to reduce runoff potential. To ensure proper nutrient utilization, apply poultry litter within 30 days of planting or according to the following poultry litter spreading schedule. Apply additional commercial fertilizer (especially nitrogen) as a split application from the poultry litter, either topdressed or sidedressed.

Do not spread litter within the following buffer areas:

- 100 feet from wells or springs
- 50 feet from surface water (25 feet if incorporated)
- 10 feet from agriculture drainage ditches
- 50 feet from sinkholes
- 50 feet from limestone outcroppings
- 25 feet from other rock outcroppings
- 200 feet from neighboring occupied dwellings unless the occupant waives or reduces the buffer in writing

Poultry Litter Spreading Schedule



Do not spread during these periods.

Poultry litter may be applied during these times if soil conditions are acceptable.

*** Apply no more than 40 lbs of plant available nitrogen per acre in the fall**
**** Except for Alfalfa and other warm season grasses.**

Spreader Calibration

Calibrate spreading equipment at least once a year or when litter consistency is obviously different. A plastic tarp or sheet, a bucket, and scales are needed. Lay the tarp smoothly on a flat area. Drive the spreader at a normal speed over the tarp while allowing the litter to begin leaving the spreader at an even, normal rate. Collect all litter spread on the tarp and pour it into the bucket. Weigh the bucket with manure and subtract the empty bucket weight to determine pounds of litter applied to the tarp. Repeat this three times and calculate the average pounds of litter applied to the tarp. Determine the litter application per acre using the following calculation: (Pounds of litter on tarp) X (21.78) / (Area of tarp in ft^2) = Tons/acre

Example: Ave. wt. of litter applied = 5.76 lbs. ⇒ $\frac{5.76 \times 21.78}{80\ ft^2}$ = 1.57 Tons/acre
Tarp or sheet area 8' X 10' = 80 ft^2

The load/area method can also be used to calibrate your spreader if you know the capacity of the spreader (tons) and the area covered by a load.

Example: $\frac{\text{Spreader capacity (tons)} \times 43560(ft^2/ac)}{\text{Spread Area (W' x L')}}$ ⇒ $\frac{6 \text{ tons} \times 43560}{200' \times 650'}$ = 2 Tons/acre

Additional Information: For more information regarding litter application rate calculations or any other poultry litter management topics, contact your county Extension Service, the regional Department of Conservation and Recreation office or the regional DEQ office.