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February 13, 2007

L. Preston Bryant, Jr.
Secretary of Natural Resources
Patrick Henry Building
1111 East Broad Street
Richmond VA 23219

David K. Paylor
Director, DEQ
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629 East Main St.
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Joseph H. Maroon
Director, DCR
P. O. Box 2094
207 Governor St.
Richmond VA 23219

Dear Sec. Bryant:

Regarding the land application of animal waste, especially municipal sewage sludge, the following facts exist:

- 1) Agricultural fertilization practices are the largest source of nitrogen and phosphorus pollution of Chesapeake Bay.
- 2) The land application of animal waste (poultry waste, manure and municipal sewage sludge) is the least efficient means of agricultural fertilization in common use. If nutrient management plans are followed (and they are not even required for most of the poultry waste spread in Virginia) approximately twice as much nitrogen is applied as is true of chemical fertilization. Even if the Phosphorus Index is used, much more phosphorus is applied than is required for crop growth as documented in DCR's "Virginia Nutrient Management Standards and Criteria, Revised 2005."
- 3) Cost savings for farmers, according to JLARC #89, on the 50,000 acres receiving sewage sludge, average about \$56/acre, or \$3,000,000 per year state-wide.
- 4) Roughly 1% of Virginia farm acreage receives sewage sludge, meaning that 99% of Virginia farms are profitable without its use.
- 5) The cost to consumers of landfilling sludge is trivial. Using data from Blue Plains, about 1000 (wet) tons of sludge are generated each day, amounting to 365,000 tons per year. Tip fees at landfills are about \$30/ton. It would cost the 2.2 million Blue Plains customers about \$11M to landfill the sludge, or less than \$5/year, equivalent to the cost of two bags of junk food per year for each customer.
- 6) The amount of nitrogen land-applied using sewage sludge, but not used by crops annually, is roughly 4,000,000 pounds (letter of June 12, 2006 and the December 2006 Bay Journal, www.bayjournal.com.) The projected cost of upgrading the Blue Plains wastewater facility to achieve the same nitrogen reduction is between \$500M and \$1 billion.

If you, Director Paylor or Director Maroon contest any of these facts, I would appreciate being corrected.

Accepting the six facts, I request that you immediately enforce 12VAC5-585-550.A "The applied nitrogen and phosphorus content of biosolids shall be limited to amounts established to support crop growth." using the application rates specified in "Standards." It is well known that "... much of the crop land in the Chesapeake Bay watershed is now considered "optimum" or "excessive" in phosphorus from an

agricultural perspective and hence needs little additional phosphorus, from any source, to ensure that economically optimum crop yields are attained.” (Dr. A. N. Sharpley, editor “Agriculture and Phosphorus Management: The Chesapeake Bay”, 1999, CRC Press, p. 66). Enforcing 12VAC5-585-550.A would result in an effective ban on the land application of sewage sludge no matter what its source, with no effect on agricultural productivity. It would reduce import from out-of-state of pathogens, unregulated chemicals, and nitrogen and phosphorus pollution without violating the Commerce Clause (Welch v. Board of Supervisors Rappahannock County). The small cost to a very few farmers is regrettable, but the number of Virginians who desire improved water quality in Chesapeake Bay far exceeds the number of farmers who would be affected. The additional cost of landfilling is trivial when spread among millions of consumers.

Severe restrictions on land application, as is required under existing, unenforced, law, would provide incentives to use animal waste more wisely, including production of methane gas and incinerating the residue along with recovering the phosphorus. Phosphorus is a non-renewable resource that is obtained by mining. Global high-grade phosphorus reserves will be depleted within the lifetimes of children being born today at current rates of extraction. Because of inefficiencies in plant uptake, the existing practice of land application squanders phosphorus almost as much as if it were buried in a landfill.

Virginia must move toward an outright ban on the land application of animal waste. Unless agricultural fertilizations practices are significantly improved, it is impossible for water quality in Chesapeake Bay to improve significantly. Failure to enforce existing law with regard to the land application of animal waste, and move toward a complete ban, signals the government’s position that the welfare of a very few farmers trump human and environmental health concerns, including the water quality in Chesapeake Bay. I look forward to your responses to this letter and my letter of June 12, 23, 2006, which never received a substantive reply.

Yours sincerely,

Dr. Lynton S. Land
www.VaBayBlues.org

cc: Gov. Kaine; Sec. Tavenner; Del. Wittman; CBF