



WATER RESOURCES RESEARCH GRANT PROPOSAL

Project ID: 2003DC35B

Title: Effect of Pelletized Poultry Manure and Vegetable Production on Vadose Zone Water Quality

Project Type: Research

Focus Categories: Water Quality, Solute Transport, Nutrients, Lysimeter, Vadose Zone, Nitrate, Phosphate

Keywords: EditRegion7

Start Date: 03/01/2003

End Date: 02/28/2004

Federal Funds: \$10603.00

Matching Funds: \$21206.00

Congressional District: District of Columbia

Principal Investigators: Allen, James R.

Abstract: The Chesapeake Bay Agreement signed by leaders of Delaware, Maryland, Washington DC, and Virginia promises a 40% reduction in the Bay's nitrogen and phosphorus level by the year 2010. This reduction campaign was initiated particularly because of a pfeisteria scare induced by the Bay's excess phosphorus level from over application of chemical fertilizer and poultry manure in crop production areas. Eutrophication, caused by excess nitrogen and phosphorus, has also reduced the Bay's sub-aquatic vegetation significantly. The most recent Chesapeake Bay report, July 2002, indicates no improvement in the Bay's water quality. On a scale of 100, the Bay's environmental quality was graded as 27, which is extremely low. In fact, this grade did not change from the previous year regardless of clean up efforts. Poultry manure produced from the Delaware, Maryland, and Virginia (DELMARVA) poultry industries is applied on farmland along with chemical fertilizer for crop production. However, a significant amount of unused manure is stored for future usage or remains to be disposed of. Perdue AgriRecycle, Inc. has cleaned, sterilized, and pelletized poultry manure for easy handling and movement in crop and vegetable production. This material has been analyzed for nutrient content; however, not much data is available to demonstrate it's effectiveness in crop and vegetable production as well as its effect on ground water quality or pfeisteria proliferation. Residents of Washington DC grow vegetable in

their backyard and could potentially use this material as a soil amendment. Therefore, this experiment is designed to determine the effectiveness of pelletized poultry manure as a soil amendment in vegetable production and its potential effect on DC water resources using lysimeters for vadose zone water sampling. Information generated will be used for extension and outreach to benefit the residents of Washington DC.

[U.S. Department of the Interior](#), [U.S. Geological Survey](#)

Maintain: Schefter@usgs.gov

Last Modified: Wed May 28, 2003 4:26 PM

[Privacy Statement](#) // [Disclaimer](#) // [Accessibility](#)