Undergraduate Internship Project #2 of 10 for FY07

Intern Stephen Mayer’s project, co-sponsored by the DWRC and the UD’s College of Agriculture and Natural Resources, was titled “Benefit-cost Analysis of Pelletized Broiler Litter in Agronomic Crop Production and Turf Grass Management.” He was advised by Dr. Joshua Duke of the UD’s Department of Food and Resource Economics.

Abstract

Sussex County, Delaware, is a leading county in the production of broiler chickens nationwide. Broiler chicken production creates an abundance of broiler litter, which is laden with nutrients that partially run off into water bodies creating environmental hazards. This study seeks to enumerate and compare the private benefits and private costs of using pelletized broiler litter (PBL) in a nutrient deficit region. The approach followed Field and Field’s four step benefit-cost analysis in Environmental Economics: An Introduction, 4th. The research uses facts from the first year of data collection at St. Andrews athletic and agricultural fields. These fields which were being treated with PBL in an experiment as part of the larger project led by Drs. Hansen, White-Hansen, Barton, and Sprinkle on management strategies to improve turf quality on the athletic fields at St. Andrews and by Drs. Sims, McGrath, and Collins for the improvement of agricultural production acres. This study shows that a significant subsidy would be needed to encourage farmers and turf grass managers to use PBL. PBL is not an economically feasible agricultural fertilizer for corn. Due to the large amount of nitrogen being applied, PBL is an expensive alternative to urea. However, turf fields have proven to be more economically feasible for PBL fertilizer use. Because of the low nitrogen rates typically applied to turf, PBL stands a much better chance as an alternative fertilizer when purchased in bulk.