Regional impacts of Phosphorus Index implementation in Pennsylvania. (4611)

Authors:
- W.J. Kogelmann * - Penn State Univ.
- H.S. Lin - Penn State Univ., University Park, PA
- R. Bryant - USDA-ARS, University Park, PA

Abstract:
We present results from the second phase of a study designed to assess the impact of implementation of phosphorus (P) based nutrient management using the P-Index in Pennsylvania. Two counties, Lancaster and Snyder, which were deemed “hot spots” in phase 1 of this research based on a geospatial analysis of soil test P, animal density, and stream buffer zones. The sample of farms selected was intended to allow an estimation of the effect of P-Index implementation, in terms of the proportion of fields and acreage found to be P restricted. Of the 276 fields studied, 29.7% required Part B assessment and 67.1% of the fields requiring part B were found to be P restricted under current management practices. Overall, 19.9% of the fields representing 26.8% of total farm acreage would be P restricted under the P-Index. Farms in Lancaster County were affected more than those in Snyder County and high P source factors were deemed a primary factor leading to high P-Index values. Soil test P levels were found to increase with increasing animal density and farms in the highest animal density classes were found to have the largest fraction of fields and total acreage to be P restricted. Additionally, the effect of the P-Index on pastures vs. cropland was investigated. Regulators may use the results of this study to determine the course of P-Index implementation across the state.

Speaker Information: Wilhelm Kogelmann, Penn State Univ., 116 ASI Building, University Park, PA 16802; Phone: 814-865--0052; E-mail: wjk11@psu.edu

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