Developing and Implementing a Mass Based Phosphorus Index in Virginia. (S04-mullins102559-Poster)

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Abstract:

Public concern regarding the effects of organic nutrient sources on water quality in Virginia and other Mid-Atlantic States has increased markedly in recent years. Protecting water quality from nutrient pollution will require the development and implementation of farm-level management tools to minimize environmental impacts resulting from the land application of N and P in organic and inorganic fertilizers. The objective of this multi-disciplinary project was to develop a mass based P-Index as a nutrient management tool for Virginia. In our approach, the U.S. Natural Resources Conservation Service template for the P-Index was modified to include quantative estimates of the risk for potential P losses from agricultural fields in Virginia through erosion, surface runoff and percolation. Data required for input into the Virginia P-Index include the solubility of soil P, the type, rate, and method of P source management, transport factors which can affect P losses from agricultural fields to surface and ground water supplies, and estimates of annual rainfall. Current and future developmental activities are being focused on evaluation/validation of the Virginia P-Index on diverse soils and cropping systems across the state.

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