Runoff and Soil Test Phosphorus from Crop Fields in Vermont. (S11-tilley131921-Oral)

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Abstract:

Phosphorus runoff from cropland contributes to eutrophication and water quality degradation in lakes and streams. A Phosphorus Index has been developed to prioritize fields for P runoff potential, but it requires sound research data to relate P runoff to variables such as erosion, manure application, and soil test P (STP). We initiated research to determine dissolved and total P concentrations in runoff as a function of STP levels. We generated runoff with a rainfall simulator on clay and silt loam soils in both field plots and runoff boxes, and measured P and sediment losses. Soluble runoff P generally increased linearly with STP, but preliminary results suggest differences between soil types. Some unexpected results may have been due to unusual antecedent soil moisture conditions and other soil and vegetation effects.

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