Web-based NLEAP/GIS for Nitrate Leaching and Nitrous Oxide Emissions. (A03-shaffer093250-Poster)

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Abstract:

Proper management of soil nitrogen (N) is essential for crop production and environmental protection. Models have been developed to assist with N management, but access to these tools, associated soil and climate databases, and supporting GIS packages has been difficult. A client-server Web site is now available at http://nleap.usda.gov/nresearch.html that makes the NLEAP model and required NRCS soil and climate databases available for direct online use. The package provides rapid and efficient application of simulation tools such as the NLEAP NO3-N leaching model and a newly integrated tool for simulating N2O emissions from soils. An ESRI ArcIms GIS server and graphics capabilities are also provided on-line to assist with spatial and temporal data analysis and interpretation. The ultimate objective is for NRCS field personnel and other users worldwide to more efficiently evaluate nutrient management practices on targeted farms and select alternatives that can reduce the threat of NO3-N leaching to groundwater and emissions of N2O greenhouse gases to the atmosphere while maintaining crop productivity.

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