USGS

WATER RESOURCES RESEARCH GRANT PROPOSAL

Project ID: 2002ID3B

Title: Factors Controlling the Availability of Phosphorus for Transport into Surface Waters from Manure Amended Soils in Southern Idaho

Project Type: Research

Focus Categories: Water Quality, Groundwater, Non Point Pollution

Keywords: Phosphorous-Index, Eutrophication, Manure Disposal

Start Date: 03/01/2002

End Date: 02/28/2003

Federal Funds: $14,314

Non-Federal Matching Funds: $24,936

Congressional District:

Principal Investigator:
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Abstract

In Idaho crop and animal production are the primary economic industries. These activities have made Idaho one of the top food producers in the nation (e.g., currently #6 in dairy production in 1999) (Gerhardt and Kurtz, 2000). However, to maintain this productivity it is critical that the impacts of agriculture on the natural environment be minimized. For example, in southwestern California many of the dairy farms are leaving the region because the costs for reducing pollution became too great. Recently the U.S. Geological Survey (1999) and EPA (1996) identified eutrophication as the most ubiquitous water quality impairment in the U.S. (Sharpley, 2000). Eutrophication is caused by excess nutrient loading into surface waters, in particular phosphorus (P) and nitrogen (N). Phosphorus is often found to be the limiting nutrient in eutrophication because it has a decreased mobility compared to N. However, due to intensive animal manure and fertilizer application onto soils, P transport into the surface waters has increased. The goal of this study is to investigate the availability of P as a function of its molecular form and soil type.