The Impact of Vegetative Filter Strips and Water Treatment Residuals on Phosphorus Runoff. (S11-green104444-Poster)

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Abstract:

Agricultural land runoff is a major source of phosphorus (P) nonpoint source pollution. In an effort to impede soluble P transport in surface water, six rates (0, 16, 32, 64, 128, and 256 Mg ha^-1) of water treatment residuals (WTR) were applied to the surface of simulated vegetative filter strips (VFS). The VFS consist of three cool season perennial wheatgrasses including crested wheatgrass (Agropyron cristatum), western wheatgrass (Agropyron smithii) and streambank wheatgrass (Agropyron riparium). An overland flow manifold system disperses water spiked with a known P concentration to the VFS boxes that are established at a nine percent slope. Runoff is collected at the bottom of the boxes and measured for dissolved reactive P. The objective of this research is to determine the impact that various rates of WTR application have on P sorption at a specific runoff rate. Initial results indicate that more P removal occurs with 128 Mg ha^-1 than with all other rates from four to 29 minutes after runoff begins.

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