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## Preliminary Experimental Study on Effectiveness of Vegetative Filter Strip to Pollutants in Surface Runoff

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### ABSTRACT

Vegetative filter strip (VFS) is a main kind of Best Management Practices for the control of non-point source pollution. The goal of this paper is to evaluate the effectiveness of VFS in Chinese northwest regions. Three VFSs with natural grass and Hippophae rhamnoides/grass patterns have been constructed in the bank slope of Xiaohuashan reservoir, Huaxian County, Shannxi Province. The removal effects of VFS and influencing factors have been analyzed based on field experiment data. The result reveals a positive effect on reducing the transportation of suspended solids, phosphorus and nitrogen in surface runoff, and it is more efficient on suspended solids removal. The experiment also shows that most of the suspended particles and pollutants bound to them were entrapped in the first 10 m of VFS. The main factors influencing effectiveness of VFS include vegetation patterns and inflow rate. In addition, inflow pollutant concentration has a larger impact on reducing total nitrogen and total phosphorus by VFS, but the reduction effect on SS has no significant difference.

### KEYWORDS

Pollution Control, Runoff, Vegetative Filter Strips, Non-point Pollutants, Plot Experiment

### Cite this paper

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