

**I**n semi-arid and intermountain regions of the U.S., livestock confinement facilities and unprotected fallow fields are a concern because of the potential for significant storm runoff, erosion and degradation of water quality. Vegetative filter strips can be used to slow runoff water and trap sediment and bacteria before they contaminate water resources.



This 12-minute video highlights two case studies with vegetative filter strips: nitrate/bacteria reduction and sediment reduction. James Bauder, MSU Extension Service, and Richard Fasching, USDA-NRCS, show viewers their test plots and give their findings. The Montana Department of Environmental Quality also cooperated on the case studies.



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## Protecting Surface Water With Vegetative Filter Strips

Vegetative filter strips can be used to trap sediment and phosphorus and slow the movement of runoff, nitrates and bacteria before they can contaminate water resources.



with

James Bauder, Montana State University Extension Service,  
and Richard Fasching, USDA-NRCS



**E**rosion of sediment at rates of 10 to 20 tons per acre can occur annually off livestock confinement areas, off pastures with livestock on frozen ground to which manure has been applied, and off fallowed crop ground following spring and summer rains. The runoff also carries salts, nutrients and bacteria that may cause degradation of surface water quality downstream.

**L**earn from two Montana State University research projects that show how planting grass strips—otherwise known as buffer strips or vegetative filter strips—can play a valuable role in trapping and slowing the movement of nutrients, sediment and bacteria before they leave the field.



**Study 1:**  
Vegetative filter strips trapped 95 percent of nitrates and 54 to 87 percent of bacteria originating from stockpiled manure on a non-vegetated field following a large rainstorm.

**Study 2:**  
Vegetative filter strips trapped 80 percent of sediment originating from a non-vegetated field following a large rainstorm.

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