

# REDUCING BACTERIA WITH BEST MANAGEMENT PRACTICES FOR LIVESTOCK: FILTER STRIPS

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## Description

A strip or area of herbaceous vegetation established between cropland, grazing land, or disturbed land that removes contaminants from overland flow.

## Benefits to Producer

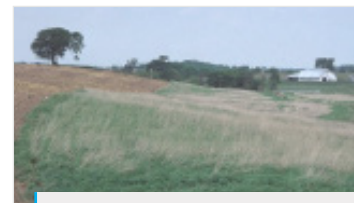
- ▶ Reduces stream bank destabilization and associated sedimentation.
- ▶ Maintains and improves surface and/or subsurface water quantity and quality.
- ▶ Reduces accelerated soil erosion and maintains or improves soil condition.
- ▶ Decreases runoff volume and velocity.
- ▶ Reduces concentrations of pollutants including sediment, nutrients, and bacteria.
- ▶ Provides and maintains food, cover, and shelter for wildlife.
- ▶ Increased infiltration and groundwater recharge.
- ▶ Enhances aesthetic value of the land.
- ▶ Reduces soil and water loss from land.



A grass filter strip functions as a conservation buffer along a small stream.  
*Photo by Lynn Betts, NRCS.*

## Other Benefits

- ▶ Reduced overland flow, increased infiltration, reduced erosion and transport of soil and its constituents.
- ▶ Reduced runoff by 52% and soil loss by 53% under no-tilled conditions with use of filter strips.
- ▶ Increased sediment trapping efficiencies from 41% to 100% and infiltration efficiencies from 9% to 100%.
- ▶ Increased trapping efficiencies for total phosphorus between 27% and 96%.
- ▶ Increased trapping efficiencies for nitrate-nitrogen between 7% and 100%.
- ▶ Increased herbicide retention contained in runoff by 38%.
- ▶ Reduced atrazine concentrations between 56% and 99%.



Filter strips help keep soil, nutrients, and other pollutants out of creeks and streams and provide quality habitat for many species of wildlife. *Photo by Bob Nichols, NRCS.*

## Bacterial Removal Efficiency

- ▶ Filter strips resulted in the following bacterial reductions based on scientific research:
  - *Cryptosporidium parvum*: 93 to 99%
  - *E. coli*: 58 to 99%
  - Fecal coliform: 30 to 100%
  - Fecal *enterococci*: 99.8% to 99.97%
  - Fecal *streptococci*: 68 to 83%
  - *Giardia*: 26%
  - Total coliform: 67 to 99%

## Estimated Installation Costs

- ▶ \$257/acre to \$310/acre depending on use of native or non-native vegetation.
- ▶ Cost information obtained from the Texas NRCS Electronic Field Office Technical Guide for Zone 4; costs may vary for other zones.
- ▶ Prices are estimates and can vary depending on location and economic conditions.

## For Technical or Possible Financial Assistance

- ▶ Contact your local County Extension Agent, Soil and Water Conservation District (<https://www.tsswcb.texas.gov/swcdfs>) or the Natural Resources Conservation Service (<https://www.nrcs.usda.gov>).

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