

# REDUCING BACTERIA WITH BEST MANAGEMENT PRACTICES FOR LIVESTOCK: ROOF RUNOFF STRUCTURE

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## Description

Structures such as gutters, downspouts, and outlets that collect, control, and transport precipitation from roofs. During heavy rains, large amounts of water drain off the roofs of farm houses, barns, and other buildings. Flooding, erosion, and pollution problems can result, but can be greatly minimized simply by keeping roof rainwater away from buildings and other important areas on the farm.

## Benefits to Producer

- ▶ Improves property aesthetics and increases property value.
- ▶ Improves water quality by reducing sediment, nutrient, bacterial, organic, and inorganic loading to the stream.
- ▶ Reduces accelerated soil erosion and maintains or improves soil condition.
- ▶ Increases water quantity.
- ▶ Prevents water flow into barns, stables, and animal waste areas.
- ▶ Controls runoff to downslope areas and protects buildings and structures from undercutting their foundation.
- ▶ Increase infiltration of water into the soil profile.
- ▶ Improves livestock management and health by reducing mud around barns and outbuildings.

## Bacterial Removal Efficiency

- ▶ Roof runoff structures are primarily designed to control and reduce runoff. Water quality is enhanced by reducing water flow across impervious surfaces and waste areas thereby minimizing pollutant loads (sediment, nutrients, bacteria, organic matter) to surrounding water bodies.

- ▶ Roof runoff structures can be used in conjunction with other practices such as fencing, filter strips, and heavy use area protection. These practices have been shown to reduce concentrations of bacteria.

## Estimated Installation Costs

- ▶ \$6.70/linear foot for gutters and downspouts.
- ▶ \$20.60/linear foot for collection pipelines.
- ▶ 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/swcds>) or the Natural Resources Conservation Service (<https://www.nrcs.usda.gov/>).



A roof runoff structure like the one seen in the picture helps to collect, control, and transport precipitation from roofs. Picture courtesy of the King Conservation District.

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