

REDUCING BACTERIA WITH BEST MANAGEMENT PRACTICES FOR LIVESTOCK: WATERING FACILITY

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Description

A permanent or portable off-stream water supply, such as a trough or pond system, that provides an adequate amount and quality of drinking water for livestock and/or wildlife and also helps improve animal distribution.

Benefits to Producer

- ▶ Reduces herd health risks associated with livestock standing in muddy areas, such as foot disease and injuries due to unstable footing.
- ▶ Provides clean source of water for livestock.
- ▶ Decreases herd injuries associated with cattle climbing steep and unstable stream banks.
- ▶ Improves water quality by reducing sediment, nutrient, bacterial, organic, and inorganic loading to the stream.
- ▶ Reduces stream bank destabilization and associated erosion due to trampling and overgrazing of banks.
- ▶ During drought, when surface water sources are dry, an alternative water source provides the water necessary for beef cattle producers to remain in business.



A water tank in a pasture combined with fencing keeps cattle out of critical riparian areas.
Photo by Jeff Vanuga, NRCS.



Cattle watering at an off-stream portable water system.
Photo by Chris Coulon, NRCS

Bacterial Removal Efficiency

An off-stream alternative water supply resulted in the following bacterial reductions based on scientific research:

- *E. coli*: 85%
- Fecal coliform: 51% to 94%
- Fecal *streptococci*: 77%

Other Benefits

- ▶ Decreased the amount of direct livestock use of stream for drinking and other activities between 48 and 90%.
- ▶ Decreased stream bank erosion by 77%.
- ▶ Increased gain in beef cattle of 0.2 to 0.4 lb/day.
- ▶ Improved milk and butterfat production in dairy cattle.
- ▶ Increased annual net returns to ranch between \$4,500 and \$11,000 depending on cattle prices and precipitation levels with use of off-stream salt supplements.
- ▶ Increased annual grazing capacity by 85 AUMs.

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Estimated Installation Costs

- ▶ Watering troughs: \$450 to about \$7,600 depending on the size and material (plastic, galvanized metal, fiberglass, or concrete).
- ▶ Electric water pumps: \$1,900 to \$4,000 depending on the size.
- ▶ Solar water pumps: \$5,700 to \$12,000 depending on well depth.
- ▶ Windmills: \$8,200 to \$17,800 depending on fan diameter.
- ▶ Pond: \$2.08/cubic yard to \$10.08/cubic yard depending on size.

- ▶ 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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