

in-house windrow composting

windrowlitter.tamu.edu

In-house windrow composting is a cost-effective best management practice that reduces the amount of micro-organisms in poultry litter before it is removed from poultry houses. This project is demonstrating the environmental effects and benefits of treating poultry litter using in-house windrow composting.

Many of the water bodies that are impaired by bacteria throughout the state are located in the poultry-producing regions of Texas. Poultry production has expanded significantly in recent years in Falls, Limestone and surrounding counties. An estimated 550 new poultry houses have been built in this area, producing approximately 60 million broilers annually. If improperly managed, litter (the combination of bedding material and manure) removed from the facilities and applied to surrounding land represents a threat to water quality through bacterial and nutrient runoff from these fields.

Cost-effective best management practices (BMPs) are needed to reduce the environmental impacts from new and existing facilities. One such BMP is in-house windrow composting (IWC) of poultry litter. IWC is a management strategy used by commercial poultry producers to reduce pathogenic micro-organisms in litter and improve the overall quality between successive flocks reared on the same litter.

The **Environmental Effects of In-House Windrow Composting of Poultry Litter** project is demonstrating

the environmental effects of treating poultry litter using IWC. It is anticipated that the IWC procedure should eliminate most *E. coli* in the litter, thus reducing the potential for bacterial contamination of water resources. If successfully demonstrated, poultry producers could use IWC as a standard, cost-effective BMP to reduce the microbial load of poultry litter before it is removed from poultry houses.

Objectives

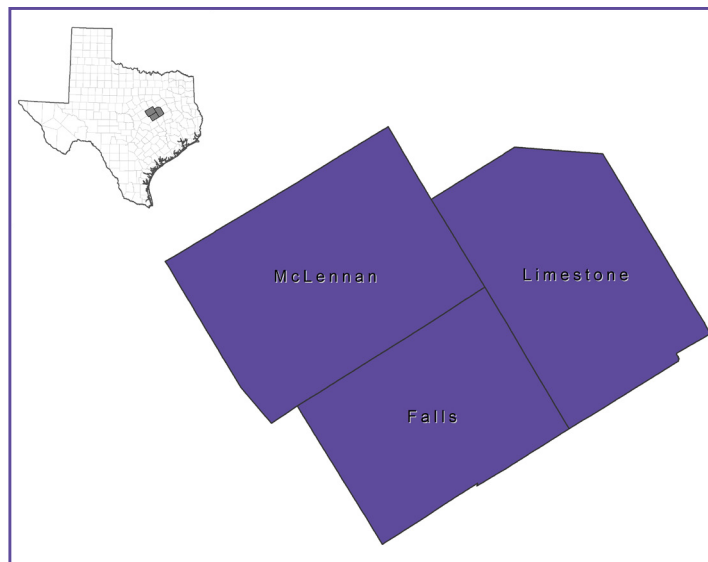
- Analyze the impact of IWC on bacteria, nutrient and volatile levels in litter
- Analyze the economics of IWC versus conventional methods
- Evaluate the environmental impacts of IWC of poultry litter
- Disseminate information and provide results of the BMP demonstration and evaluation to poultry growers and integrators throughout the poultry-producing areas of Texas



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Collaborators

- Texas State Soil and Water Conservation Board
- Texas Water Resources Institute
- Texas AgriLife Extension Service
- Texas AgriLife Research
- West Texas A&M University Olfactometry Laboratory
- Sanderson Farms
- Texas Poultry Federation
- USDA Natural Resources Conservation Service
- USDA Agricultural Research Service
- Limestone-Falls Soil and Water Conservation District
- Private poultry growers



Funding Agency

- Texas State Soil and Water Conservation Board



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