Southern Great Plains Dairy Consortium

Federal Initiative Accomplishments

2009

Lead Agency
New Mexico State University
Partners
Texas AgriLife Research; Texas AgriLife Extension Service; Texas Veterinary Medical Diagnostic Laboratory; USDA Agricultural Research Service; West Texas A&M University; Texas Tech University; Tarleton State University
Federal Funding
USDA National Institute of Food and Agriculture
Jobs Generated
4 FTEs
Nonfederal Funds Leveraged
$80,000

sgpdct.tamu.edu

AgriLIFE RESEARCH
Texas A&M System

AgriLIFE EXTENSION
Texas A&M System

Purpose/Objectives

The purpose of this New Mexico State University and Texas AgriLife Research and Extension Service project is to address major research and educational needs of the rapidly expanding dairy industry in the Southern Great Plains of New Mexico and Texas. Priority research areas include improved dairy production efficiency through animal nutrition, health, and management; product safety and biosecurity; rapid assay technologies; water, air quality, energy, and natural resource utilization; enhanced forage production; efficient manure and water utilization; and economic assessment.

Objectives include the following:

- Generate knowledge and technology to solve dairy industry production and environmental and natural resource issues.
- Expand research into emissions affecting air quality as well as economical manure and wastewater management systems.
- Research dairy biomass fuel-to-energy conversion.
- Refine animal nutrient requirements.
- Develop technologies to reduce groundwater use per unit of production.
- Characterize and mitigate the presence and movement of drug-resistant pathogenic bacteria.
- Expand both extension and university education programs.

Accomplishments/Impacts

- Conducted a workshop with stakeholders/dairy producers/organizations and the research team and developed major priority areas for implementing the program.
- Estimated the economic impact of the dairy industry for Texas, New Mexico, Oklahoma, and Arizona using the IMPLAN model to serve as a base for understanding its contribution to the regional economy. Dairy sales for the four states totaled $3.8 billion, with a regional economic impact of $10 billion.
- Implemented air emission measurements at cooperating dairies in eastern New Mexico and the Texas Plains to determine baseline information from which best management practices can be developed for reducing emissions.
- Conducted a carbon footprint analysis, including tracing sources through the system to those providing inputs and movement of products, with emphasis on minimizing carbon emissions from the dairy industry.
- Conducted a water-use study, including measuring water use within a dairy for alternative configurations of milking parlors and surrounding land as well as the irrigation of silage for a year's feed. The study includes a review of aquifer measurements in designated locations. Step 2 is designing and developing management practices and technologies for conservation of the water used in all phases of a dairy.
- Conducted a six-week, hands-on, annual training class, Advanced Dairy Herd Management, for students of participating universities. Dairy owners have been key partners in the development of these classes, granting access to their operations and records to give the students real-world experiences with commercial herds. As a result of these classes, dairy educational programs are being rebuilt at land-grant universities in seven states.