Returns to Dairy Technology Investment

Economic Impacts of Extension Education

Heat Stress Creates Challenges for Milk Producers

- A variety of factors can influence a cow's milk production. In Texas, two of these factors are heat stress and reproduction.
- External heat accumulates from solar radiation, high ambient air temperature, and high relative humidity, causing a cow's body temperature to increase. This has an adverse effect on both reproduction and milk production.

AgriLife Extension's Response

- Texas A&M AgriLife Research scientists and Texas A&M AgriLife Extension Service specialists, as well as their counterparts across the South, have developed effective heat-abatement (cooling) options that are part of a broader effort to maintain a comfortable environment for dairy cows.
- The most common heat-abatement methods include the use of fans, soakers, shade, and cooling ponds.
- Cooling systems provide such advantages as reduced body heat, increased feed intake, improved reproduction, and improved milk production.
- Over the past decade, AgriLife Extension has collaborated with pharmaceutical companies, local veterinarians, artificial insemination (AI) organizations, cooling-equipment manufacturers, and other dairy industry consultants to develop and conduct educational programs for dairy producers across the state.
- These programs focused on improving reproduction through heat abatement and also on synchronization breeding programs, which are designed to control when a cow ovulates.
- Extension specialists and agents conducted field demonstrations on different cooling methods and breeding programs. They also conducted field days to help producers learn more about these technological advancements.
- Reproduction workshops for farm employees and annual nutrition conferences for industry consultants emphasized techniques that mitigate the impacts of heat stress.

Economic Impacts

- More than 90% of the dairies (490,000 dairy cows) in Texas have adopted some form of heat -abatement method in their operation. The change in net returns for heat-abatement programs was estimated at $46 per cow, or $19.6 million annually, statewide, in 2017.
- Adoption of breeding programs and heat abatement has resulted in higher pregnancy rates and an additional $12.9 million in annual benefits for milk producers, bringing the total estimated benefit to $32.5 million.

Contact
Parr Rosson, Interim Director
Texas A&M AgriLife Extension Service
Ph. 979.845.7967 | Email: prosson@tamu.edu
2018