Texas Dairy Matters
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Heat Stress Tune Up

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Take steps now to prepare for this summer's heat stress. Start by reviewing your heat stress abatement plan, which should include shade, fans, soakers and drinking water. Herds with inadequate cooling may see milk production losses of 20 percent or more.

If your herd doesn't have enough cooling, build shades as your first defense against summer heat stress. Provide 38 - 48 square feet of shade per cow. Use solid shade rather than slatted shade. Make the roof 11 - 14 feet high to minimize reflected solar radiation. Orient the shade north and south to allow the sun to dry the area under the shade.

Groom the area under the shade so cows have a dry place to lie down. If you already have shades, check to make sure they meet the guidelines described above. Repair shades that have been damaged.

Evaluate your heifer and calf cooling as well as the cow herd. Provide shade to these two groups to enhance productivity. Also prepare for additional water consumption by both groups.

Next, evaluate your holding pen cooling. Does a roof provide shade? If not, add shade. Install soakers and fans to cool cows while they wait to be milked. Mount fans at a 30 degree angle so air blows downward around the cow. Install parlor exit lane sprinklers to increase cooling beyond milking time.

Make sure all fans are working. Clean the fans to improve their energy efficiency as well as to enhance air movement. If you need to replace fans, the University of Illinois evaluates the performance and efficiency of agricultural ventilation fans. The information on size, airflow and efficiency ratings for fans from a number of models can be found at: http://bess.illinois.edu/. The Ventilating Efficiency Ratio (VER) measures the electrical efficiency of the fans.

USDA-NRCS provides financial assistance for energy audits for dairy operations. Based on the audit recommendations, Environmental Quality Incentive Program (EQIP) funds may be available to pay for a portion of the cost of installation and replacement of equipment that

provides energy savings. Although EQIP funding is highly competitive, please contact your local NRCS field office for additional information.

Repair water lines that may have ruptured during the winter. Replace spray nozzles in sprinkler systems where needed. Check the electrical system to ensure that fans and sensors will work properly when needed.

Add sprinklers at feed bunks to encourage cows to maintain dry matter intake. Put the sprinklers on a timer so cows are soaked to the skin and then allowed time to air dry.

Recent research indicates cooling should begin when the temperature-humidity index (THI) reaches 68 rather than the traditional 72. Thus you need to fine tune the cooling system settings to turn on sooner.

With the drought, conserving water while cooling cows is a must. If not already in place, consider a system upgrade that adjusts the soak and cool times with the temperature. Work at Kansas State indicates you should increase soaking frequency at the feed lane as temperature increases. Soaking requires .35 gallon of water per headlock per soaking cycle. Adjust the soakers based on the following temperature ranges:

a. 75 - 82° F once every 15 minutes
b. 83 - 87 °F once every 10 minutes
c. Greater than 87 °F once every 5 minutes

An ideal free stall barn has a roof pitch of 4 feet per 12 feet and an open ridge vent to encourage air flow. Side walls should be a minimum of 12 feet high with 14 feet preferable. Locate fans over the beds, above the feed bunk or both.

Although we usually discuss shade and cooling for the milking herd, cooling is just as important for dry cows, heifers and cows. At a minimum, provide all animals with shade.

Check water supplies. Cows may double their water intake during the summer. If you've expanded your herd, verify that your water supply system can keep up with the increased water demand this summer. Provide baby calves with water as well. Milk isn't enough.

Prepare now to combat heat stress so production losses are kept to a minimum this coming summer.