

How To Keep Cows Cool When The Temperature Goes Up —

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NEWARK, De. — Hot weather will be here soon and with it the problems it causes our dairy cows — less feed intake and fewer estrus signs (at least during the day), lower milk production and lower farm profits.

For years we've talked about the advantages of shade trees in the pasture and fans in the barn. New research in Arizona and Florida with implanted thermometers shows that much more than providing shade trees and a few fans needs to be done to reduce the bad effects of heat stress on our cows.

When it gets about 78 degrees F

in the barn or shed, cows begin to experience heat stress and milk output drops. Usually this temperature is reached in the barn before the outside temperature gets that high. We don't need to wait for 90 degree F days for production to suffer.

On our recent Delaware-Georgia dairy Extension tour we saw several interesting new developments in ways to cool cows more effectively.

Fan ventilation is of limited value because it can't lower the temperature inside a barn or shed below that of the surrounding air, although the so-called wind-chill effect does provide some relief. Actual air temperature reduction can be achieved either with

refrigerated air conditioning, which is usually too expensive to use on our cows, or with evaporative cooling.

What we saw in action in northern Florida on our May tour was evaporative cooling plus fan plus shade applied to dairy herd management on a large scale. Some of these large herds averaged 60 pounds of milk per cow per day. So, does this kind of cooling system pay?

A typical installation consisted of overhead sprinklers, misters or foggers plus many large fans tilted to blow a breeze over the cows' backs, plus large sheets of black nursery house netting tied over the entire feeding, loafing and sleeping areas. We were told that this system would pay for itself in a year if it boosted milk production by as little as five pounds per cow per day for between 100 to 150 days.

This new evaporative cooling system involves wetting down the cows with overhead misters, foggers or sprinklers on a timer schedule of so many times per hour and using the fans to force air onto the wet cows. The fans cause the sprinkler water to evaporate, thus cooling the cows to below the outside temperature. The shade provided by the netting enhances the cooling effect. At the same time, the misters or foggers cool the surrounding air so that as the cows inhale it they lose additional body heat through their lungs.

Apparently, sprinklers plus fans are best. We were told that at least

one 36-inch fan is needed for every 40 cows to produce a desired air speed of 400 to 600 feet per minute. Additional fans are necessary in holding areas where cows are grouped close together, and an extra fan is needed for every 30-foot distance.

The University of Florida research project that we saw used PVC pipe mounted under barn roofs just under the fans — about 8 feet high — with 0.22 inch orifice plastic nozzles. The sprinklers operated at 10 psi pressure for 1.5 minutes on 15-minute cycles, with the 1/4 horsepower 36-inch fans blowing for 13.5 minutes. Sprinklers applied 0.05 inch rainfall equi-

valent during each sprinkling. Total installation costs varied from \$34 to \$165 per cow. Sixty gallons of water per cow were used on days above 78 degrees F. Electrical consumption was 1.8 kilowatt hour per cow per day.

In parts of Florida this system has to operate for eight months, and payback was 1.4 years for the \$165 per cow installation. Feed consumption increased significantly and producers averaged \$0.69 extra milk income per cow per day.

Anyone with questions or wishing more details should contact Dr. George Haenlein at the University of Delaware (302-451-2522).

Scholarships For Home Economic Students

FLEMINGTON, NJ — Johanna Farms, Queens Farms and Tuscan Dairy Farms have announced the establishment of a scholarship fund for the children and grandchildren of suppliers.

Each year, \$1,000 each will be awarded to 10 college-bound high school seniors planning majors in dairy production, technology or science. Any son, daughter or grandchild of a dairy farmer selling milk to Johannan, Tuscan or Queens Farms is eligible.

All entrants must write an essay answering the question "What do you see as the future of the dairy industry in the United States?" Essays should be double-spaced and no longer than 1,000 words.

Evaluation will be by an independent panel of judges.

"We're eager to learn what the next generation of dairy farmers sees when it looks to the future," commented Kurt Goldman, president of Johanna Farms. "We also want to do our part to encourage the children of our suppliers to stay with the family business, and to continue doing business with us during the years to come."

For applications, farmers should ask their field representative or send their name and address to Johanna Farms Scholarship Program, Johanna Farms, Inc., Flemington, N.J. 08822. The deadline for entries is June 15, 1988.

RCMA March Premium

(Continued from Page A1)

prices. "We're losing hundreds of dairy farmers each year who can no longer make a living. They see their income drop, while their costs increase. No business can afford to operate under those conditions for a prolonged period," he said.

Recently released figures compiled by Walter Wasserman of the Cooperative Extension Association of Cayuga County and Cornell University show that from March 1987 to March 1988 approximately 1,400 Northeastern dairy farms stopped production. Agriculture observers believe that the farm economic situation during 1988 is expected to be far worse.

Wasserman's report also shows that the blend price paid to farmers in the region dropped 5-6 percent,

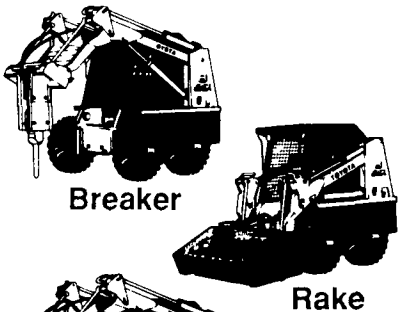
or as much as 68-cents per hundredweight.

"The RCMA premium is certainly not making up for the entire decline in farm income, but we are working on increasing premiums. Additionally, RCMA's leadership in paying premiums has caused many private dealers to pay premiums of their own directly to producers which are helping to lessen the impact of falling prices," Zuber said.

RCMA is currently involved in a major membership drive so that the organization can more effectively bargain for their farm prices. Zuber noted that during April 49 new members joined RCMA. "The key to the future is signing-up every milk producer in the Northeast. Farmers have to stick together," he said.

Ransome Lift

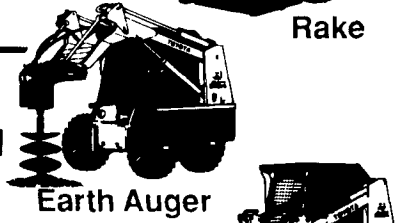
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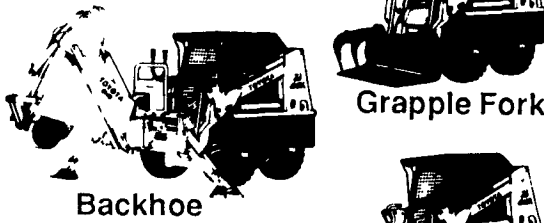
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