

# Maintain Milk Production Despite Uncooperative Weather

BY RANDY WELLS

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INDIANA — Even though it was snowing outside in Indiana County on Friday, Feb. 10, inside the Rustic Lodge, Penn State Agricultural Engineer Dr. Robert Graves was telling Indiana County farmers how to keep their dairy cows more comfortable during periods of extreme heat and humidity.

With memories of last summer's heat wave and drought still fresh in their minds, and with predictions of another hot summer on the way, the local dairymen took special interest in Dr. Graves' tips for maintaining milk production even when the weather isn't cooperating.

Dr. Graves was one of several speakers making presentations at the Indiana County Dairy Day sponsored by the Indiana County Cooperative Extension. Keystone dairy farmers lose more milk production in periods of hot weather than cold weather, Dr. Graves said, mainly because of cows' depressed appetite in sultry weather, and in some cases because of insufficient water intake.

Back in the days when dairymen only expected their cows to produce 9,000 pounds of milk, it was acceptable to keep them in the pasture during the summer, and bring them in only for milking or extra feed.

"But you're working those girls a lot harder today than you were 10 or 15 years ago," Dr. Graves said.

The key to maintaining good milk production, he said, is to minimize stress on the cows during hot weather, by keeping them as comfortable as possible. And that involves four main steps: keep the cows out of the hot mid-day sun; keep an air movement circulating around the cows; provide adequate air exchange to remove foul air from barns; and provide plenty of extra drinking water.

Since most Pennsylvania barns were built with more concern for winter weather than summer weather, Dr. Graves said dairymen sometimes have to use imagination to keep their barns comfortable in hot, humid weather.

Removable windows and sidewalls and open ridges help vent hot air from barns and take advantage of summer breezes. Exhaust fans and extra ventilation fans may be necessary, and a breeze of two to five miles per hour on the cows is best, he said. The minimum distance from the cows' heads to the roof should be at least six feet, to keep the radiant heat off the roof as far from the animals as possible.

A high-volume exhaust system should provide 400-500 cubic feet per minute of exhaust capacity for every 1,000 pounds of cows, Dr. Graves said. That could amount to 50-60 complete air exchanges every hour.

In hot weather a cow will use any available water first to cool herself through sweating and respiration moisture, and any left-over water will be used for milk production. For that reason, Dr. Graves said, extra water tubs may be needed, and conditions surrounding feed banks and watering areas should be as cool and pleasant as possible to encourage cows to stay there longer. Care should also be taken to avoid packing too many cows into a small space, such as a holding area before milking, for too long a time.

Another measure which gained

popularity this past summer, especially in the southeastern part of the state, Dr. Graves said, was the use of sprinkling systems for cooling cows. Sprinkling systems work best along outside feeding bunks or in well-ventilated barns where the evaporation process will be most effective, he said. A three-quarter inch line, drilled to accept a fan jet nozzle every four to five feet, should be suspended at a height of about eight feet above the ground or floor, and about 32 inches back from the feed line.

The spray should be heavy enough to wet the skin on the cow's back, not just the hair. But the spray should not be so heavy as to produce sloppy udders. Under a properly adjusted spray, Dr. Graves said, the water will drop off the flanks of the cows, and the udders will remain clean, reducing the risk of any increase in mastitis.

A timer to control the sprinkling can prevent excessive water usage, and alternating wetting and drying periods may actually increase the cooling effect.

Dr. Graves also offered some advice for increasing cow comfort in barns during the winter. A special effort should be made, he said, to provide a comfortable atmosphere for cows during stressful periods such as calving.

"I'm amazed how well our cows do when you consider some of the conditions they're calved in," he said. If the calving facility doesn't look like an inviting place for the farmer to lay down and take a nap in, it's probably not good enough for the cow when calving either, he said.

Since a mature cow will breathe out four to five gallons of moisture each day during cold weather, an effort should be made to keep barns dry. And when a day of mild weather suddenly pushes the

temperature up to around 50 degrees, barns should be opened to vent ammonia generated by manure packs.

"If you're barn smells like a barn, it's poorly ventilated," he said, and added the weather never gets so cold in Pennsylvania that a barn shouldn't smell fresh.

Also at the Dairy Day program, a panel of local farmers discussed their management programs for semi-solid or liquid manure storage systems and fielded questions from other farmers considering such systems.

Ross Orner, Jr. of Rockton, Clearfield County, and Bill Ebert of Blairsville and Rick Kemerer of Latrobe, both in Westmoreland

County, discussed the success they have had with their systems, and the differences between gravity-out and pumping systems, and the need for safety features such as dual valves on the outlet line and security fences around lagoons.

Other speakers for the day were Colleen Armstrong of Pfizer Pharmaceuticals, Chuck Glasser, Indiana County ASCS director, Wayne Bugovich, a USDA Soil Conservation Service engineer, and Roy Breneman, Agway dairy and livestock specialist.




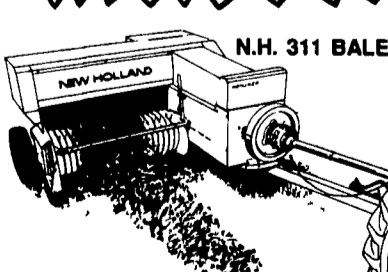
During the lunch break, participants were also able to visit displays by a number of area agribusinesses.

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