

# Cool cows make more milk

COLUMBIA, Mo. — Some shade, fans, and sprayer-foggers could help dairymen save several hundred pounds of milk this summer.

"In most years, dairymen can expect to lose about 400 pounds of milk per cow because of the heat. Last summer in Missouri, production dropped over 600 pounds per cow in many herds," said Barry Steevens, University of Missouri-Columbia dairy specialist.

"Summer stress also causes breeding problems. Cows in heat are difficult to detect in summer, and services per conception will rise from 1.5 to 4 or more per cow.

Steevens said a dairy cow is "quite a mobile furnace we have to keep cool in the summer."

He pointed out that a 1,400-pound dairy cow will give off over 9,000 BTU's of heat per hour — the energy equivalent of a quarter to a half bale of hay each day.

To help cows beat the heat, Steevens had these suggestions:

- Give them shade.
- "If you build shades, they should be designed to provide 20 to 25 square feet of shaded area per cow. The shade should be 10 to 12 feet high and the top side of the metal should be painted white," said Steevens.
- "Shade trees are big help, too—

as long as there are enough for the herd and as long as they aren't located on the south 40 a half-mile away from the dairy barn!"

➤ Give them plenty of water. "A dairy cow normally consumes 20 to 30 gallons of fresh water a day and will drink up to 60 gallons on a hot day," Steevens said.

➤ "Fresh feed and water should be close to the cow. A shaded field bunk is desirable, too.

➤ "Don't allow cows to wade in the farm pond, because this spreads disease and causes many problems."

➤ Cool holding pens. "First, don't keep dairy cows

in the holding pen for over an hour or you'll lose milk production," Steevens said.

➤ "Then do what you can to ventilate the place. Some dairymen have installed 30-to 36-inch fans at the end of the barn to move air out across the holding pen. Others have installed hog fogger nozzles to spray fine mist that the fans blow across the cows waiting to be milked."

➤ Design cool barns. Free-style barns should be designed with an open ridge. Steevens recommends a minimum of 6 inches for buildings 40 feet wide. Add one inch for each additional ten feet of width.

cellotex under the metal is one method of providing insulation which will effectively reduce radiation heat."

Steevens said a number of dairymen have successfully installed a sprayer-fogger nozzle to spray fine mists of water across cows in alleyways.

"It's important that the mist does not get the stalls wet and that there is adequate air movement for evaporative cooling," Steevens said.

"Several dairymen who have installed spray nozzles brought their herd production back 20 to 30 percent this past summer.

"One method is to have a large sprayer nozzle rated at 5 gallons per hour which can be turned on and off during the day. A large three- or four-foot fan can help move the air across the cows.

"Research shows that evaporative cooling can add an extra 120 pounds of milk per cow during the summer."

"Also have openings along the sides to allow for adequate air movement," Steevens said.

"It's also very desirable to have a radiation barrier underneath the metal roof to prevent radiation of heat down into the barn. A three-quarter inch asphalt impregnated

## Iron and baby pigs

UNIVERSITY PARK — Too much iron in the diet of baby pigs can be a disadvantage in its fight against microorganisms, according to Kenneth Kephart, graduate assistant of Animal Science at Penn State.

Research at Purdue University suggests that the inherent bacteriostatic character of sow's milk is destroyed by the addition of iron. One of the body's normal defense mechanisms against bacteria is an iron-binding system. If we oversupply this binding system, the excess iron may be used for bacterial growth.

Kephart noted, that the study

indicated bacterial growth in sow's milk was enhanced with small additions of iron. Further, gut segments from the baby pigs were found to have a higher coliform type bacteria in an iron containing medium.

Levels of iron used in the cultures were similar to that found in the gut when pigs were injected with 200 mg of iron dextran. Additional research into iron's effects on pigs is being conducted.

It appears that two smaller iron shots, 10 days to 2 weeks apart, may be more desirable than one large dose, Kephart concluded.



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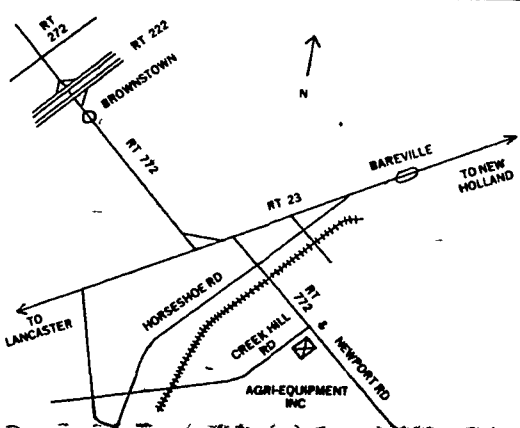


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