

# Cool Cows Make More Milk

COLUMBIA, MO — Dairy producers who keep their cows cool during summer can boost profits by several hundred dollars a month, according to research by University of Missouri-Columbia dairy scientists.

"Our studies showed that spraying each cow with one-half gallon of water per hour and running a fan that produced a 10-mile-an-hour breeze put cows back in the comfort zone and brought milk production back to normal," said Harold Johnson.

"In a 100-cow herd, that sort of cooling program can boost milk profits by more than \$750 a month."

University Extension dairy specialist Barry Stevens said summer heat stress can decrease milk production 20 to 30 percent. Cows produce less milk because they eat less due to high body temperatures. "Also, their conception rate

drops considerably," Stevens said.

He said the normal body temperature of a dairy cow is 101.5 degrees Fahrenheit. When the cow is under heat stress, that temperature can hit 103 to 106 degrees.

"High producing cows have to dissipate approximately 1,600 kilo-calories of heat per hour — about 6,400 BTUs," Stevens said. "That's a tremendous amount of heat to shed through radiation and respiration."

"A 100-cow herd, is giving off 640,000 BTUs an hour. That's about the same as having several large furnaces in your house."

Stevens and Johnson offer these suggestions for keeping cows cool:

—Provide shade. "We recommend giving each cow at least 50 square feet of shaded space," Stevens said. Shade should be at least 10 feet high and orientated

north and south.

In a Florida study when the outside temperature was 102 degrees, the temperature under a metal roof with insulation was 86 degrees. Under a sun screen with 90 percent blockage, the temperature was 92.5 degrees; under a sun screen with 70 percent blockage, 93.4 degrees. Sun screens cost about 30 cents per square foot.

—Open the ridge of the barn. "A number of dairy barns are hot

boxes unless we allow air movement," Stevens said. A ridge cap should be at least 12 inches above the barn's ridge to allow hot air to rise and exit through the roof.

—Open the barn sides. Some producers remove metal or wood from the barn sides for summer ventilation.

—Install large fans. "For every 20 to 30 cows, we recommend you install one 36-inch fan that will deliver 11,000 cubic feet per

minute," Stevens said.

—Use cool bedding. Sand is a cool bedding material that reduces the chance of mastitis-causing bacteria. Stevens and Johnson recommend 6 inches of clean, washed sand for stalls. Sand should not be used if you have a liquid manure pump, because it can ruin the pump.

—Install water sprinklers. "Soak cows, don't just fog them," Stevens said. A fine mist does more harm than good by creating a foggy, humid environment.

He suggested installing a spray nozzle about 8 to 10 feet above the cow. These should be located in drained cement areas — near feed bunks or the edge of the free stall barn.

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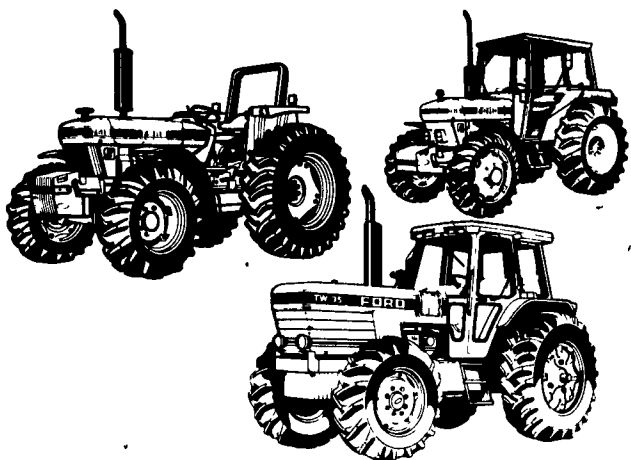
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## Organic Center

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Best time to call - around 7:15 to 8 a.m., to talk with owner, Ell Stoltzfus.