

# Cows Can Keep Udderly Cool Thanks To Barn-Ventilation Advances

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600 feet per minute. But for the engineers, there is a problem to overcome: the cows themselves. "Air acts like water in a creek in many ways. The cows act like boulders in a creek," said Gooch. "Once the moving air gets to the cow, the air stops and the movement dissipates. That's a problem, and that's why the velocity of the tunnel ventilation must be so great."

Tunnel ventilation, an agricultural concept once found exclusively in poultry and swine farms, has made its way to the dairy industry. Poultry and swine producers have found that increased animal comfort during the summer can reap economic benefits if the tunnel ventilation system is designed, installed and managed properly, said Gooch. "The application of tunnel ventilation as a summertime system in the dairy industry is relatively new," he said.

Older-style barns without effective summertime ventilation or wind exposure use axial-flow fans along feed barrier and resting areas. But these fans merely move air within the barn and do not provide air exchange, said Gooch.

With tunnel ventilation, fans on one end gable draw air from inside the barn and push it outside, while

vents, called inlets, on the barn's opposite gable pull fresh air into the barn.

On very hot days, ventilation needs to be supplemented by an evaporative cooling system as air conditioning is too costly for dairy facilities. The cooling system works much like the human body, expelling moisture on hot days to cool itself. In the barn, water is discharged by small nozzles at a high pressure into fast-moving air, lowering the temperature inside the barn by about 10 degrees Fahrenheit, said Gooch.

"This technology is innovative and here for producers to try," said Gooch. "The cost of a TIV controller is only slightly more than conventional stage controllers, but it offers better management of the barn environment during hot summer conditions."

*make it Milk*

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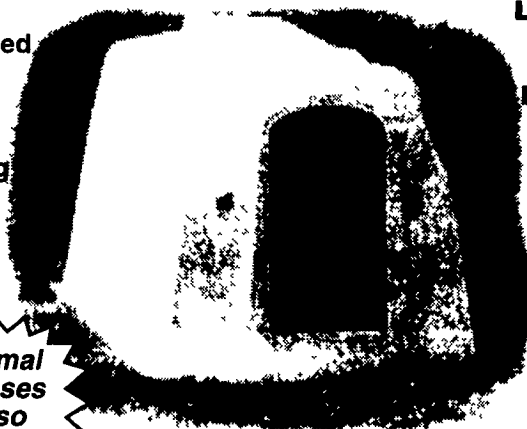
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