

Keeping cows cool and clean with sprinkler systems

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Dairy producers aim to keep their cows clean and comfortable, especially in hot summer months. An overhead evaporative cooling sprinkler system and a ground level udder-washing sprinkler system have made the transition from field to barn to improve cow comfort and hygiene.

The iWob and Wobbler sprinklers were originally developed for irrigation and commonly grace pivots. In the mid-90s, a dairy came to Senninger Irrigation requesting the sprinklers, not for the field but for the barn.

The company partnered with the dairy running trials using the sprinklers to cool the cows in the heat of summer. They tested factors like water pressure and droplet size to find the best combination for water conservation and effectiveness.

The resulting sprinkler system has become a valid solution to heat stress and is gaining in popularity. To learn more about the specifics of this system, see "[Considering Evaporative Cooling.](#)"

The success of using the field sprinklers in the barn also led to another adaptation of the equipment, this one coming from below rather than above.

The sprinklers can be installed into the holding pen floor. When the cows are waiting to be milked, the sprinklers come on and spray the underside of the cow with clean water, removing debris and getting the cows ready for milking.

Edwin Smith, a district manager with Senninger Irrigation Inc. out of Lubbock, Texas, said the system makes for happier cows because the water helps cool them off. The washing also reduces incidence of infection and decreases milking time because the cows arrive with udders already partially clean.

The system uses a 15-degree to 20-degree stream trajectory. This not only targets the udders, but also means it fits well into most existing systems without needing new or special plumbing.

The system operates at low pressures, giving producers more control. It also uses a uniform pattern to achieve better coverage in less time so it is run for a shorter period than other devices.

The producer or someone with experience with irrigation equipment can install the udder-washing system or the overhead system, though the company does make design suggestions for each holding pen.

Joe Torres of Presidio Dairy in Texas described his overhead sprinkler installation, saying the installation process was similar to installing a lawn sprinkler.

The overhead system requires more climbing than the ground-level system, but Torres installed his system in about two weeks.

The floor-based system uses steel cages around each sprinkler for safety.

“All of the installations that I have seen have steel domes over the Wobbler to keep the cows from breaking or eating them,” Smith said.

The sprinkler heads run at about \$9 a unit, so replacing a head won’t be particularly expensive, but the cages are recommended.

Keeping a cow clean and cool improves a producer’s bottom line; less money is lost to infection and heat stress. Sprinklers, whether above or below the herd, are one more tool that producers can use on their dairies toward that goal. **PD**

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