



DAIRYINFO

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Taking service to another level!

Reducing Heat Stress in the Holding Pen ~

Dairy cows experience heat stress when the temperature humidity index (THI) exceeds 72°F/22°C at 50% RH. This index is based on the relationship of temperature and relative humidity (RH). Many dairies use shade, fans and/or sprinklers to cool cows at the feedbunk and in the housing areas. An area [that is] often overlooked is the holding pen, where cows may be standing from 2-6 hours/day depending on milking parlor performance and group size. Cooling needs to be considered in this area! Research has shown that, without cooling, the body temperature of a cow increased 3°F/1.7°C within 20 minutes after entering the holding pen. When an overhead spray system and fans were installed, the cow's body temperature was lowered by 3.5°F/2°C during the time the cows were in the holding pen. Cooled cows produced 1.7 lbs (0.77 liters) more milk/day than uncooled cows. Another research trial showed an increase in milk production of 5 lbs/day (2.3 liters) when cows were cooled five times/day for 30 minutes in a holding pen. Heat stress not only affects milk production during hot periods but can also affect reproduction and milk production well into the cooler months. Cows give off approximately 4,500 BTUs/hour when temperatures exceed 80°F/27°C. About half of this energy is expelled from their lungs as evaporative moisture or latent heat. The remainder radiates from the hide. This heat production per cow is similar to a 1,500-watt hair dryer blowing continuously at high speed.

Modern dairies strive to limit the time cows are away from feed and water to no more than 2-3 hours/day. Many small(er) dairies house cows in one large group. As a result, some cows may be away from feed and water from 4-6 hours/day, or 15-25% of the time. Gates, fences or panels are an economical way to subdivide the cow herd into multiple groups during the summer months, reducing time standing in the holding pen.

Proper group sizing can help reduce heat stress with minimal investment in equipment or facilities. Cows should be grouped together so they are in the holding pen less than 1 hour/milking when milking two times daily. Herds milking three times each day should remain in the holding pen less than 45 minutes/milking. To estimate group size, multiply the total number of milk stalls by 4.5. Dairies with milk parlors not used at full capacity (more than 12 hours/day) may be able to alter their milking schedules. The objective is to avoid milking between 1 p.m. and 7 p.m. For example, a dairy milking two times/day may switch from a 5 a.m. and 5 p.m.

milking to a 10 a.m. and 10 p.m. milking. A herd being milked three times/day may be switched to a 3 a.m., 11 a.m. and 7 p.m. schedule, to avoid having cows in the holding pen during the heat of the day.

Dairies may also consider changing the order of the groups of cows being milked. Heifers are better able to tolerate heat than mature cows. High-producing groups should be milked during the cooler periods of the day.

Cows should have access to fresh water immediately upon exiting the milk parlor. Providing two feet of trough space per cow per parlor side along return lanes is ideal; however, any trough space that is available on the return trip from the parlor will be helpful. It is important to provide fresh, clean cool water! Watering troughs must be easy to empty for cleaning and should be cleaned on a regular basis. A water trough that is warmed by the afternoon sun should be emptied immediately before the afternoon milking and refilled with fresh water. Watering troughs at the exit lanes should be placed in the shade or have some form of shade constructed over them.

Holding pens should have sidewalls open at least 60% in order to enhance natural ventilation. Be careful to ensure that no structural damage is done to the holding pen if the sidewalls are modified. Sidewall curtains or hinged doors can be used to protect the cows during cold weather.

Here are five management steps to minimize heat stress in the holding pen:

- Reduce group size to minimize time in holding pen.
- Alter milking times, if parlor is not used to capacity.
- Open up holding pen sidewalls/ridge to enhance natural ventilation.
- Install fans to mechanically ventilate holding pen on hot, still summer days.
- Install sprinkler systems to increase the evaporative cooling from the cows.

Keep your cows cool this summer and appreciate the difference in health, production and profitability.

(Edited from an article by Harner, Smith, Brouk & Murphy at Kansas State)

PLAN AHEAD FOR HARVEST...

**USE A RESEARCH-TESTED INOCULANT
OR PRESERVATIVE FOR RESULTS!**

Contact Me For More Information.

Interested in discussing topics in this newsletter, or want to do a better job feeding and managing your cows? Call us!

Our goal is to help you. That's the W-S Feed commitment!

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...with Appreciation!

JUNE IS DAIRY MONTH!

"THANK YOU!" for all your efforts in providing high quality milk and dairy products every day. You are helping to feed America and in fact... the world! This month is set aside to honor your efforts and recognize the outstanding contribution you make. Everyone at Renaissance joins me in applauding your work and saying thanks... for a job well done!



HEAT STRESS IS COMING...

Cool, wet weather throughout much of May in many areas has almost tricked us into thinking that the heat and humidity of summer is a long way off. The fact is... you need to start preparing now for hot weather and its potential impact on your herd! Heat and humidity can adversely affect dry matter intakes. Consequently, production and profitability are impacted. It is vitally important to maintain quality nutrition during summer months with a diet that is designed to counter the effects of heat stress. One important way to combat heat stress in dairy cows is to ensure they are fed a highly digestible, rumen-friendly ration. A ration short on energy can only lead the animal toward a decreased ability to manage times of high heat and humidity. This is often evidenced first by a reduction in dry matter intake, along with depressed milk production. We can help you evaluate your rations to ensure they meet the energy needs of your cows throughout the coming summer months, offering products and supplements that are valuable additives, and can help to counteract the potential impact of heat stress this summer.

Help your cows "cool off" this summer... with W-S-Feed & Supplies!!



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CHECK IT OUT!

