

Prioritizing Heat Abatement in Dry Cows Produces Stronger Calves

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After the cold days of winter, I'm excited for warm weather. But we can be sure our cows are not equally enthusiastic about the coming hot days. By now you have probably read an article or two about heat stress in dairy cows and why we should avoid it. You've probably seen the effects on your own dairy after a particularly long stretch of above average warm days.

Rising temperatures and humidity levels result in uncomfortable cows. Cows would prefer if the temperature never climbed much above 22 °C. A temperature humidity index can predict just how uncomfortable cows will be depending on the values on a particular day. As this index climbs, so does the respiration rate and core body temperature of the cow.

There is plenty of good evidence to support actively cooling cows when it gets hot. Lactating dairy cows respond to heat stress by reducing dry matter intake. The cow must shift her metabolic priorities in order to withstand the heat and will eventually suffer from a drop in milk production. Paying attention to these cows just makes economic sense.

But what about the lowly dry cow? She is the future of the dairy in more than one way. Not only is she just a few weeks from contributing to the milk cheque, but her calf is the future of the herd. Heat stress during the dry period can significantly affect the success of the transition period. Dry cows that are heat stressed have reduced mammary growth, poorer immune status and produce less milk in the subsequent lactation compared to cows that are cooled.

Current research from the Southern United States shows we have more to be concerned about than just the cow. Calves born to dams that underwent heat stress during her dry period are affected too. Calves that develop in the uteri of heat stressed dams get more than a tough start, they never catch up.

There seems to be three major disadvantages for calves born to heat stressed dams.

1. They have lower birth weights. This may be because the placenta of a heat stressed cow is poorer functioning compared to a cooled cow as well as lower dry matter intake by the dam. This birth weight difference is still present at the time of weaning and at one year of age.
2. Calves born to heat stressed dams have poorer ability to absorb antibodies from colostrum compared to calves born to cooled cows. This results in a poorer functioning immune system and greater risk of disease including diarrhea and pneumonia. Furthermore, these heifers leave the herd at a greater frequency before puberty.
3. Heifers born to heat stressed dams are less productive in the herd. They require more services to conceive and produce less milk in first lactation compared to calves from cooled dams.

I encourage you to think about the dry cows on your dairy operation and talk to your veterinarian and dairy advisors about heat abatement opportunities. Providing shade, and using cooling options like fans or misting not only increases the likelihood of a successful transition period for your cow, but produces stronger calves that are better equipped to succeed on your dairy.