

Heat-stressed cows spend more time standing

March 12 2013

A new study by researchers at the University of Arizona and Northwest Missouri State University shows that standing and lying behavior can predict heat stress in cows.

In a presentation at the 2013 ADSA Midwest Branch / ASAS Midwestern Section Meeting, Dr. Jamison Allen explained that predicting [heat stress](#) is vital for keeping cows healthy and productive. Cows will pant, eat less and produce less milk when their [core body temperature](#) increases.

Allen said cows prefer standing to lying on hot days. Cows stand to allow more of their surface area to disperse heat into the air. Allen and his colleagues were curious to see if standing behavior could be used to predict core body temperature.

The researchers used two tools to study the relationship between behavior and temperature. They fitted each cow with an intra-vaginal sensor to measure core body temperature. They also fitted each cow with a special leg sensor to measure the angle of the leg and track whether the cow was standing or lying.

After comparing data from cows in Arizona, California and Minnesota, the researchers concluded that standing behavior and core body temperature are strongly correlated. Allen said cows stood for longer bouts of time as their core [body temperatures](#) rose from 101 degrees Fahrenheit to above 102 degrees.

"We can predict the animal's behavior to stand according to their core temperature," Allen said.

According to Allen, [dairy producers](#) could use standing behavior to improve well being and efficiency in their herds. He said producers could use coolers and misters to target a specific core body temperature. By encouraging cows to lie down, producers will also help their cows conserve energy.

Allen recommended future studies to see how cows respond to different [cooling systems](#). He said researchers could also study cow behavior related to humidity.

Allen's abstract was titled "Effect of core body temperature or time of day on lying behavior of lactating [dairy cows](#)." The research was presented Mar. 12 as part of the Animal Behavior, Housing and Well Being Oral Session.

Provided by American Society of Animal Science

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