Climate Change Stresses Out Cows, Lowers Milk Production

By Chelsea Whyte

Hot and sticky weather isn't just uncomfortable for humans. Cows living in humid climates become stressed and produce less milk, and with global temperatures on the rise there may not be much relief in sight.

Research from the University of Washington found that a decline in milk production due to climate change varies across the United States depending on regional humidity and how much the temperatures swings between day and night. Combining high-resolution climate data and county-level dairy industry data, they created the most detailed county-by-county assessment of the impact of climate change on Holstein milk production in the U.S. through 2080.

Their projections determined that the humid and hot nights of the Southeast make for an unfriendly environment for milk cows.

"Using U.S. Department of Agriculture statistics, if you look at milk production in the Southeast versus the Northwest, it's very different," said study co-author Guillaume Mauger, a postdoctoral researcher in the UW's Climate Impacts Group, according to Futurity.org. "It's reasonable to assume that some of that is due to the inhospitable environment for cows in the Southeast."

In places with cool yet humid nighttime climates, like Tillamook, Ore., milk production begins to drop at a much lower temperature than in the dry climate of Arizona. Tillamook cows become less productive starting at 59 degrees Fahrenheit while those in Maricopa, Ariz. Start making less milk at around 77 degrees. And in humid Okeechobee, Fla., cows become less productive at around the same temperature as in Arizona, but losses increase at a much faster rate.

It's long been known that cows prefer cooler climates, and the researchers found that dairy farmers are already clustering in the most comfortable areas for cows, but the climate outlook across the southern U.S. suggests that farmers are susceptible to more losses if they're living in warm, humid climates - which will get warmer and more humid.

"Perhaps most significantly, those regions that are currently experiencing the greatest losses are also the most susceptible: they are projected to be impacted the most by climate change," the researchers wrote in the paper.

But with new advances in technology and breeding practices, the milk industry may make it through the coming climate changes. The researchers project that dairy production averaged across the U.S. will be about 6 percent lower in the 2080s than at the start of the century, though other factors are likely to actually boost milk production even more.

"Management practices and breeding are on track to double milk production in Holsteins in the next 30 or 50 years," said Guillaume Mauger, according to EP
Magazine. "So while a 6 percent drop is not negligible, it's small compared to other positive influences."