NORTH DAKOTA-Effects of Cold Temperatures on Feed Intake in Beef Cows

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The study objective was to measure response intake to cold temperatures. by cows fed a forage-based diet Results indicate cows ate more as the temperature declined during months when they were acclimating to the cold temperature. When cows were acclimated to the cold temperature, intake changed little across temperatures. Cows ate more during warmer temperatures in February, which was the opposite of earlier months. This may not be completely due to temperature because cows were in late pregnancy at this time.

Summary. Forty-seven pregnant beef cows (1,453 lbs of body weight) were initially fed a diet (6.7% crude protein) of 45% grass hay, 45% wheat straw, and 10% partially de-sugared molasses. One group was supplemented with dry-rolled corn at 0.3% of body weight, and the other was just fed the hay-based diet. Cows wore radio-frequency identification tags to monitor individual intake. Feed intake was measured in November, December, January, and February (115-224 days of gestation). Cows fed the control diet gained 1.0 lb/day and lost 0.2 body condition score units (9-point scale). Cows fed supplement gained 1.5 lbs/day and 0.2 score units.

In November and December, intake increased due to temperatures getting colder ($P<0.01$). In January, feed intake did not respond to temperature change ($P=0.07$). In February, feed intake increased when the temperature warmed ($P<0.01$). During January and February, the cows' response to colder temperatures was different than in November and December. We hypothesize these differences were due to cows having longer to acclimatize to colder temperatures, having thicker hair, and higher metabolism rates.

Complete results can be found at: www.ag.ndsu.edu/pubs/ansci/beef/as1815-19.pdf.