Beef Day 2021

Estimating the effects of weather, dry matter intake, and body weight on daily water intake in weaned calves

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Objective

The purpose of this study was to study the effect of weather, dry matter intake, and body weight on the water requirements of weaned calves and estimating the requirements in a model.

Study Description

Weaned steers (n=48) were selected to study the effects of the weather, body weight, and dry matter intake on water intake in the winter (n=24) and summer (n=24) months. Calves were provided with *ad libitum* access to feed and water at the SDSU Cow-Calf Education and Research Facility (CCERF) and measured utilizing an automated feed and water system (Insentec, The Hague, Netherlands). Temperature, humidity, precipitation, wind speed, solar radiation, and air pressure were recorded at a Mesonet automated weather station in Brookings, SD (located 2.4 miles from the SDSU CCERF). Effects of climate data, body weight, and daily dry matter intake on daily water intake will be analyzed utilizing a mixed-effects model.

Take Home Points

Preliminary results suggest that windchill, body weight, and dry matter intake have a statistically significant effect on mean daily water intake in beef cattle. Initial analysis also indicates that the factors affecting water intake are likely correlated. Additional statistical analysis must be performed to devise an updated predictive equation for mean daily water intake in beef cattle.

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