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Beef Day 2022

Evaluation of a direct fed microbial and an enzymatically hydrolyzed yeast product fed alone or in combination to beef steers administered ractopamine hydrochloride 28 days prior to harvest during summer months in the Northern Plains

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Objective

The objective of this research was to determine the influence a direct fed microbial (DFM) and/or yeast cell wall (YCW) product (Arm & Hammer Animal Nutrition, Princeton, NJ) have on heat stress measures in beef steers administered ractopamine hydrochloride (RH; 300 mg/steer-d-1) the final 28-d on feed, during summer months in the Northern Plains (NP).

Study Description

Single-sourced, newly weaned steers (n=256; initial BW=542 ± 3.7lb; n=64 steers/treatment; 8 steers/pen) were blocked by location in a 2x2 factorial arrangement of DFM (Certillus CP B1801 Dry; Bacillus subtilis, Lactobacillus plantarum; 28 g/steer-d-1) and YCW (Celmanax; 18 g/steer-d-1). Temperature-humidity index (THI) was calculated as: $THI = 0.81 \times \text{ambient temperature} + [\text{relative humidity} \times (\text{ambient temperature} - 14.40)] + 46.40$. On d-1 and 2 and d-21 and 22 on RH, respiration rate (RR) and panting scores (PS) were determined before and after AM and PM feedings (0700h, 1100h, 1400h, 1700h). RR (n=3 steers/pen) was calculated from: 600/seconds required for 10 flank movements. PS utilized this scoring system: 0 (not distressed) to 4.5 (severely distressed).

Take Home Points

Two separate heat events occurred where the average THI was greater than 75 for 10-d of the 28-d period. DFM and YCW used alone or in combination had minimal effects on heat stress measures in NP steers fed RH during summer months.

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