

---

**017 Effect of standardized capsicum oleoresin on behavior of feedlot cattle during summer.**

C. Oguey<sup>1</sup>, T. H. McCullough<sup>2</sup>, G. Parsons<sup>3</sup>, E. H. Wall<sup>1</sup>, and T. L. Mader<sup>4</sup>, <sup>1</sup>*Pancosma, Geneva, Switzerland*, <sup>2</sup>*Gladwin A. Read Co., Waterloo, NE*, <sup>3</sup>*Kansas State University, Saint George*, <sup>4</sup>*Mader Consulting, LLC, Gretna, NE*.

Previous research has shown that low dosages of capsicum oleoresin positively affected individual behavior of cattle housed in small pens. The objective of this trial was to assess the effect of a product standardized with 20% capsicum oleoresin (XT; XTRACT Caps XL, Pancosma) on behavior of feedlot cattle farmed under typical U.S. commercial conditions during the summer. A total of 28 pens regrouping 3,874 cattle (average BW at start of 426 kg) were paired according to pen type and density for 30 d. Within each pair, pens were assigned to either a control total mixed ration diet with monensin (CT) or the same diet supplemented with 250 mg/animal per day XT (XT). Dry matter intake was recorded daily for each pen. Behavior was recorded per pen, once before the trial and then 3 times during the study by 2 examiners. Panting score, percentage of standing versus laying animals, and number of animals at waterers and feed bunk were collected. Dry matter intake was analyzed using the mixed models procedure of SAS, with day, treatment, and their interaction considered fixed effects. Equality of variances for DMI was assessed using a Fisher *F*-test. Behavior data were analyzed by a  $\chi^2$  test. Results showed that the treatments did not affect DMI (mean 10.7 kg/animal per day;  $P = 0.57$ ). However, daily variation of intake tended to be lower in the XT treatment than in the CT group ( $P < 0.06$ ), suggesting that capsicum induced a more homogeneous DMI. The proportion of animals standing versus lying was not affected by the treatments ( $P > 0.70$ ) as well as at the waterer and at the feeder (means of 5.81 and 7.82%, respectively;  $P > 0.20$ ). The proportion of cattle with a panting score greater than 2 was lower in XT than in CT (7.90 vs. 8.10%;  $P = 0.15$ ); however, the biological relevance of this small difference is difficult to interpret. These findings suggest that capsicum supplementation has the potential to modulate intake variation, and this may limit negative effects of a hot season in feedlot cattle raised under commercial conditions.

**Key Words:** beef cattle, capsicum oleoresin, heat stress  
doi:10.2527/asasann.2017.017

---

**018 Essential oils in the diet of young bulls: Effect on animal temperament.**

M. G. Ornaghi<sup>1</sup>, J. A. Torrecilhas<sup>2</sup>, R. A. C. Passetti<sup>1</sup>, C. Mottin<sup>1</sup>, A. Guerrero<sup>3</sup>, C. E. Eiras<sup>1</sup>, D. C. Rivaroli<sup>1</sup>, T. R. Ramos<sup>1</sup>, and I. N. Prado<sup>1</sup>, <sup>1</sup>*State University of Maringá, Maringá, Brazil*, <sup>2</sup>*São Paulo State University (UNESP) School of Agricultural and Veterinarian Sciences, Jaboticabal, Jaboticabal, Brazil*, <sup>3</sup>*Instituto Agroalimentario de Aragón-IA2, Zaragoza, Spain*.

Plant extracts and essential oils can be alternative products to antibiotics, because several plants produce secondary metabolites with antimicrobial properties. Additionally, they may act on the olfactory system, which sends signals to the central nervous system releasing endorphins that may affect the feeling of an animal's welfare while altering an animal's temperament. This study was conducted to evaluate the animal temperament of 40 young crossbred bulls (one-half Brown Swiss and one-half Nellore) 10 ± 2.2 mo old with an average BW of 219 ± 11.7 kg. Young bulls were randomly assigned to 1 of 5 diets: control, which had no clove or cinnamon; clove leaf included to supply 3,500 mg/animal per day; clove leaf included to supply 7,000 mg/animal per day; essential oil of leaf cinnamon to supply 3,500 mg/animal per day; or essential oil of leaf cinnamon to supply 7,000 mg/animal per day. The animal temperament was evaluated by calculating the chute score, exit score, and temperament score for periods (each 28 d during 6 periods) and among diets. The data were submitted to an ANOVA using GLM procedures with SAS version 9.0. The diet and period were considered fixed effects, whereas the animals were considered a random effect. Differences between means were evaluated using a Tukey test of 5% of significance. The addition of clove or cinnamon essential oils did not alter ( $P > 0.05$ ) animal temperament. The analysis of temperament score ( $P = 0.55$ ), chute score ( $P = 0.71$ ), and exit score ( $P = 0.06$ ) did not show significant differences among the diets. The exit score was similar among the 6 periods (1.57, 1.80, 2.98, 2.02, 2.73, and 2.66, respectively); however, chute score and temperament score were greater ( $P < 0.001$ ) in the first period compared with other periods. The values for chute score were 1.85, 1.40, 1.35, 1.33, 1.20, 1.17, respectively, and the values for temperament score were 2.31, 1.81, 1.67, 1.69, 1.50, and 1.56, respectively, for periods 1 to 6. The results of this study suggest that clove and cinnamon essential oils can be added as an additive in high-grain finished diets without changing the animal temperament.

**Key Words:** cinnamon, clove, feedlot  
doi:10.2527/asasann.2017.018