

156 Effect of Increasing Levels of Ergot Alkaloids in the Diet of Feedlot Cattle. Jenna M. Sarich¹,

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Abstract: This study evaluated the effects of feeding ergot alkaloids (EA) at increasing levels (0, 0.75, 1.5, and 3.0 ppm) to feedlot beef cattle over backgrounding (BG) and finishing (FS) phases on growth performance and carcass quality. Steers (n=240; 280±32 kg) were blocked by weight and randomly allocated to 16 pens (4 pens/treatment; 15 steers/pen). Treatments included: no added EA (CTL); or EA added at 0.75 (EA075); 1.50 (EA150); and 3.0 ppm (EA300). Steers were fed barley-based BG diets containing 40% concentrate:60% silage (DM basis) for 84 d, then stepped up over 28 d to a 90% concentrate:10% silage (DM basis) FS diet for 119 d. Steers fed EA300 received CTL in FS after 77 days on feed (DOF). In the BG phase, a quadratic decrease (P=0.05) in ADG and a linear decrease in final BW (P=0.03) and total BW gain (P=0.02) were observed with increasing EA. In the FS phase, up to 77 DOF, there was a linear decrease in steers DMI (P=0.04), ADG (P=0.01), and total BW gain (P=0.01) with increasing levels of EA. Over the full FS phase (119 DOF), a quadratic response was observed for ADG (P=0.05), final BW (P=0.05), total BW gain (P=0.02) and carcass weight (P=0.05) with steers fed EA150 showing the lowest performance. Gain:feed was not affected (P>0.20) by EA in the BG or FS phase. Dressing percentage (P=0.02) showed a quadratic effect with EA300 being the lowest. Additionally, a linear increase in lean meat yield (P< 0.001) was observed with increasing EA. Including EA in the diet promoted a linear increase in rectal temperature (P< 0.01). In conclusion, increasing levels of EA in the diet reduced growth performance, but when EA was removed, steers showed compensatory weight gain.

Keywords: cattle, ergot, feedlot

155 Effect of Forage Inclusion Strategy on Finishing Beef Cattle Performance and Liver Abscesses.

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Abstract: This study evaluated different strategies of forage inclusion for finishing beef cattle and their impact on performance, carcass quality, and liver abscesses. Steers (n=360, 400±29 kg) were blocked by weight and randomly assigned to one of four treatments (15 steers/pen, 6 pens/treatment) in a complete randomized experiment. Treatments were: 1) positive control (+CON) fed a diet (7.5% forage on a diet DM basis) with tylosin (11 mg/kg); 2) negative control (-CON; control diet without tylosin); 3) a diet where forage concentration decreased (DECR) every 42 d and was static for the last 84 d (forage represented 15%, 9%, 3%, and 3% of DM, respectively) without tylosin; and 4) a diet where forage concentration increased (INCR), the inverse of the DECR without tylosin. There were no differences in initial BW, DMI, and G:F (P≥0.38). The INCR steers had lower ADG (1.63 vs. 1.74 kg, P=0.05), total BW gain (287 vs. 306 kg, P=0.05), and tended to have lower final BW and carcass weight (P=0.07) compared to +CON, with no differences from the other treatments. No differences were observed for carcass dressing percentage, ribeye area, marbling scores, and quality grades (P≥0.41). Backfat thickness and yield score were lower for INCR steers (14.2 mm and 3.42) compared to -CON (16.9 mm and 3.82, P=0.04), while other treatments did not differ. There was no difference for the percentage of steers with liver abscess or severe abscess (A+; P≥0.17). However, the percentage of steers with minor liver abscesses (A) was numerically less for +CON (51.8%) and DECR (51.8%) compared to -CON (62.2%) and INCR (64.3%, P=0.055). This suggests that higher dietary concentrations of forage in the beginning stages of finishing, with a subsequent decline thereafter has the potential to decrease the proportion of minor liver abscesses, similar to the inclusion of tylosin in a high-grain diet, without impacting growth performance or carcass quality.

Keywords: beef cattle, forage, liver abscess