

Public Abstract

First Name:Blake

Middle Name:Robertson

Last Name:McDonald

Adviser's First Name:Monty

Adviser's Last Name:Kerley

Co-Adviser's First Name:Bryon

Co-Adviser's Last Name:Wiegand

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Title:THE IMPACT OF FESCUE TOXICOSIS & T-SNIP SCORE ON POST-WEANING BEEF CATTLE PERFORMANCE

It is well known that fescue toxicosis has a negative impact on cattle productivity. These studies were conducted to evaluate the effects of fescue toxicosis on post-weaning beef steers, as well as the impact of T-Snip score on performance of steers and heifers. We hypothesized that cattle that consumed an E+ diet would perform lower than cattle that did not. We also hypothesized that the cattle coming off of an E+ diet would remain at a lower weight than those that did not throughout the feeding period. T-Snip scores were also believed to be indicative of animal performance while consuming an E+ diet. A two-phase feeding trial was conducted to evaluate the aforementioned effects. 306 crossbred steers (288.8 ± 3.81 kg) were blocked by weight, T-Snip score, and color, and assigned to one of two treatments. The grow phase consisted of the first 54 days of the experiment. Throughout this period, high roughage, growing diets were fed to the steers. The treatment group was fed a diet containing toxic tall fescue seed, whereas the control diet was fed a seed-free diet. The finishing phase was day 54-slaughter. In this period, all animals were fed a common, corn-based finishing diet. For the first phase of the experiment, there were no differences between treatments for initial bodyweight (IBW), DMI, dry matter intake as a % BW (DMPW), ADG, GF, or end bodyweight (EBW). There was however differences between T-Snip star scores among treatments. In the control group, animals with 2 and 3 stars had a higher ADG ($P \geq 0.05$) (1.74 kg vs. 1.68 kg) than animals with 0, 1, & 4 stars (1.59 kg, 1.53 kg vs. 1.53 kg). In the E+ group, animals with zero stars had the lowest ADG (1.42 kg), animals with 1 or 2 stars had an increased ADG (1.65 kg vs. 1.63 kg) and animals with 3 or 4 stars had the highest ADG (1.74 kg vs. 1.76 kg) ($P \geq 0.05$). In the finishing phase, control animals had increased DMI ($P < 0.05$) (8.33 kg vs. 7.82 kg). DMIPW, ADG, and EBW tended ($P < 0.10$) to be higher for the control groups. There were no differences between T-Snip star scores among treatments during the finishing phase. HCW was higher for control animals than E+ animals ($P \geq 0.05$) (343.01 kg vs. 331.13 kg) Marbling scores were lower in E+ animals than control ($P \geq 0.05$) (4.41 vs. 4.71) Carcass value was higher for control treatment than E+ ($P \geq 0.05$) (\$1486.93 vs. \$1420.68). The only difference among T-Snip star scores occurred in the control group, where 0 star animals had increased backfat (BF) ($P \geq 0.05$). In another study we evaluated if performance of beef heifers grazing E+ pasture differed among T-Snip score. It was hypothesized that as T-Snip score increased (increased tolerance to E+ tall fescue) average daily gain of heifers would increase. 180 angus-based commercial heifers (343.22 ± 17.87 kg) grazed E+ tall fescue pasture for 75 days. Each animal had a hair sample taken and submitted for a T-Snip score and tolerance rating, where animals with 0-1 star were considered susceptible, animals with 2-3 stars were average, and animals with 4-5 stars were considered the most tolerant to fescue toxicosis. As hypothesized, there were differences in ADG between tolerance ratings. ADG for susceptible animals was 0.20 kg, average animals gained 0.25 kg, and the tolerant heifers gained 0.29 kg/d ($P = 0.07$). Average daily gains were as expected for heifers grazing E+ tall fescue pastures. Heifers identified as tolerant had 45% greater average daily gain than heifers identified as intolerant. The objective of this study was to determine if genetic testing for fescue tolerance used in cows had relevance for calves as well. This research demonstrated that genetic selection to improve fescue tolerance could improve progeny performance.