

Public Abstract

First Name:Neal

Middle Name:J.

Last Name:Bailey

Adviser's First Name:Robert L.

Adviser's Last Name:Kallenbach

Co-Adviser's First Name:

Co-Adviser's Last Name:

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Title:Comparison of Three Tall Fescue-Based Stocker Systems

Generally, stocker operators purchase small sets of lightweight calves that often need castrated, dehorned, and vaccinated. Revenue is generated upon resale of the improved heavier animals in uniform groups large enough to occupy a single pen in a feedlot. The retention time of the animals during the stocker phase generally ranges from 6-12 months. In a humid environment such as Missouri, tall fescue predominates as the main forage, and issues such as poor animal performance manifest themselves during midsummer months. At this time of year, tall fescue growth slows, and nutritive value declines. To remain economically viable, it is imperative that the stocker operator keeps calves growing at an acceptable rate. It is during this midsummer period that the grazing philosophy of the producer is tested in regards to maintaining animal performance. One approach to maintaining animal performance during the midsummer months is to supplement the calves with grain, byproduct feed, or a commercial mixture. This approach generally produces the desired effect in the sense that animal growth rate is increased. However, the response is often unpredictable. This study supplemented stocker calves on pasture with the intention to generate a predictable animal growth rate response. The amount of supplement (DDGS) offered to the calves was contingent upon forage nutritive value, and a target ADG of 0.9 kg per day. The supplemented treatment was termed "DISTILLERS". This two year study also included two other treatments, one was to act as a control (CONTROL), and the other to determine if similar ADG could be generated by increased forage management practices termed "SILAGE". All three treatments were rotationally stocked with six paddocks. In the SILAGE treatment excess forage produced in the spring was removed and stored as round bale silage. Pasture were stocked at 567 kg per ha live-weight. Within each year, two sets (a spring set and a fall set) of crossbred steers were randomly assigned to one of three treatments. The spring set was on pasture from early April to mid August, and the fall set was on pasture from early July to late October. The CONTROL steers total gain per ha (276 kg) was less than the DISTILLERS (459 kg) and SILAGE (402 kg) steers, which were equivalent to each other. Steer ADG for the spring set was equivalent for SILAGE and DISTILLERS, but greater than CONTROL. The ADG for steers in the spring set was 0.79, 0.81, and 0.62 kg for DISTILLERS, SILAGE, and CONTROL, respectively. For the fall set, ADG for all three treatments was different. The fall set, steer ADG was 0.72, 0.53, and 0.29 kg for DISTILLERS, SILAGE, and CONTROL, respectively. The only treatment that had equivalent ADG between the spring set and the fall set was the DISTILLERS treatment. Adjusting the amount of DDGS supplemented to the steers based on forage nutritive value resulted in consistent gains. Controlling the forage maturity level by mechanical removal in the SILAGE treatment resulted in total gains per ha equivalent to the DISTILLERS treatment. Stocker operators who need consistent gains throughout the season should supplement based on forage nutritive value, but stocker operators only concerned with total gains should consider either supplementing or controlling forage maturity by mechanical removal and storage.