

Grazing Evaluation of Fall Stocker Calves Grazing Alfalfa Interseeded into Two Bermudagrass Bases & the Associated Impacts on Plant & Animal Performance

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Incorporation of alfalfa into bermudagrass stands can decrease nitrogen fertilizer costs and extend the grazing season for southeastern producers, but defining management strategies of alfalfa bermudagrass mixtures is still ongoing by researchers in the region. A two-year evaluation was conducted from September to November of 2022 and 2023 on a three- and four-year-old stand of Bulldog 805 Alfalfa interseeded into two different bermudagrass bases. The objectives of the study were to evaluate the use of a four-day grazing rotation and the associated impacts on (1) animal performance of stocker calves and (2) stand performance of the forage base when strategically grazed during the fall in a dual use cut and graze system. Eight 1 ha. paddocks were arranged in a randomized complete block design with four replications. The treatments evaluated were alfalfa interseeded into Tifton 85 (T85+A) or Russell (R+A) bermudagrass. Paddocks were harvested as baleage from spring into early August of each year, followed by grazing initiation in early September. Vegetation was collected pre- and post- grazing to calculate forage mass (kg ha^{-1}) and forage allowance (kg DM kg^{-1} liveweight). Stocking rate ($\text{kg bodyweight ha}^{-1}$) was adjusted using the put and take method and average daily gain (kg day^{-1}) was calculated from tester steer weights measured at study initiation and conclusion using the double weight method. Forage mass (FM) was lower in year 2 for both varieties as compared to year 1 ($p < 0.001$). In both years, T85+A had higher FM (3250 and 2610 kg ha^{-1}) than R+A (2535 and 2206 kg ha^{-1}), respectively ($p < 0.001$). While no differences in ADG were observed between varieties ($p > 0.4$), there was a difference in ADG between year 1 (0.6 kg day^{-1}) and year 2 (0.9 kg day^{-1} , $p < 0.0001$). Liveweight (LW) gain ha^{-1} was higher for T85+A (155 kg ha^{-1}) as compared to R+A (110 kg ha^{-1} , $p < 0.04$). T85+A maintained higher stocking rates (2127 kg ha^{-1}) as compared to R+A (1589 kg ha^{-1} , $p < 0.0001$). Forage allowance (FA) was not different in year 1 between varieties ($p > 0.2$); however, in year 2, R+A had .25 kg DM kg^{-1} LW less FA than T85+A. Forage nutritive value analysis is underway and will be determined using NIRS. This preliminary data suggests that strategic fall grazing of alfalfa bermudagrass mixtures can be successful in the southeast; however, the variety of bermudagrass utilized in the mixture can affect the forage mass, liveweight gain, and stocking rate of the stand.