

Summer Annuals for Stocker Cattle Grazing in the High Plains

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BACKGROUND

Stocker cattle grazing is a primary part of the cattle industry in the High Plains. The forage base for these programs includes rangeland, introduced perennial pastures, winter annual forages and summer annual forages. In the late 1990's, interest in sorghum and sorghumXsudangrass forages carrying the brown midrib (*bmr*) trait was renewed. The *bmr* trait is associated with lower lignin content in the plant and higher fiber digestibility, therefore the energy value of the forage should be improved compared to varieties without the *bmr* trait. Photoperiod sensitive (*PS*) varieties of these forages have also been released. The *PS* trait delays maturation of the plant and therefore should maintain nutritive value over a longer timeframe during the summer; in addition, our work with silages has suggested that the *PS* varieties yield more forage than standard and *bmr* varieties. In 1999, we began a series of grazing studies to compare these *bmr* and *PS* varieties with standard varieties.

OBJECTIVE

Determine if *bmr* and *PS* varieties provided any advantages compared to standard varieties for stocker grazing systems.

RESULTS

In comparisons of a *bmr* and standard variety, steers gain on *bmr* was 0.32 lb/d higher than daily gains on the standard variety. Carrying capacity was similar for the two varieties, therefore gain/acre was also higher for the *bmr* variety.

In comparisons of *bmr* and *PS* varieties, daily gains were 0.5 to 0.7 lb higher for *bmr* varieties compared to a *PS* variety. However, carrying capacity was 13-20 percent higher for the *PS* variety. Weight gain/acre was not different for the *bmr* and *PS* varieties.

Results of these trials demonstrate that producers have flexibility to select a variety that meets their production objectives. *Bmr* varieties will improve weight gain of cattle but lower carrying capacity, while *PS* varieties will provide more carrying capacity but lower weight gains.

Current studies are focused on developing stocking rate decision models that interface weight gain response curves and partial budgeting.

