

STOCKING RATE AND SUPPLEMENTS AFFECT PERFORMANCE OF STEERS GRAZING WHEAT PASTURE

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BOTTOM LINE

Daily gain was significantly reduced when higher stocking rates forced herbage mass on wheat pasture below 800 lb/acre.

Summary

- ◆ Mexican stocker steers were grazed on wheat pasture at three stocking rates.
- ◆ Large amounts of hay consumed by stocker steers just before turnout onto pasture effectively prevented gorging.
- ◆ Stocker steers that had adequate forage gained an average of 3.2 lb daily for the first 60 days on pasture.
- ◆ When herbage mass of wheat declined below 800 lb of dry matter/acre, weight gain by steers also declined.
- ◆ A small amount of supplement helped maintain steer gains when wheat forage was short.

Introduction

Organic matter digestibility and crude protein content of forage in wheat, oats, or ryegrass pastures are high enough to support body weight gains greater than 3 lb/day in stocker cattle during late fall and winter. Yet, such rates of gain are rarely experienced, leading to the conclusion that intake by grazing stockers is below expectations. Aside from questions of genetic capacity for gain and disease and parasite problems, potential causes for reduced intake include 1) excessive stocking rate, 2) acute acidosis due to gorging at turnout and(or) chronic acidosis caused by rapid ruminal fermentation and low fiber intake, and 3) low efficiency of protein utilization. We conducted an experiment on wheat

pasture to discover the herbage mass needed to maintain adequate daily gain by stocker steers and to determine whether small amounts of fiber or grain supplement would improve performance on pasture.

Experiment

Three irrigated wheat pastures (6, 9, and 12 acres) were each stocked with nine #2 Mexican steers (416 lb) on 12 November, 1991. All steers were group-fed an average ration of 8 lb of chopped alfalfa hay and 2 lb of cottonseed hulls (CSH) for 18 days before being turned out on pasture. The limited feed supply encouraged the steers to consume large amounts of alfalfa and grass hays when they were offered free choice for 4 hr just before the steers were taken to pasture.

Three steers in each pasture were individually fed .33 lb of CSH per 100 lb body weight daily, three others were fed 0.33 lb CSH and 0.25 lb corn per 100 lb body weight, and the remaining three served as controls. The cattle were weighed every 28 days while on pasture. Herbage mass was measured, also at about 28-day intervals, by clipping 25 small plots at ground level from each pasture.

Results

Average daily gain (ADG) during the first 28 days on test exceeded 3 lb for all stocking rates and all supplement treatments across stocking rates. During this time the supplements provided no advantage in

ADG. However, as the 6-acre and 9-acre pastures were being grazed down to very low levels in late December and January (Figure 1), the CSH + corn supplement provided significant improvement in ADG (2.2 lb) over animals fed no supplement (ADG = 1.4 lb). Figure 2 shows the strong relationship between herbage mass and ADG by control steers in the 9-acre pasture from late November through mid-March. At no time did the supplements provide any benefit to steers in the 12-acre pasture. Average daily gain for unsupplemented steers in the 12-acre pasture was 3.2 lb during the first two months on pasture and 2.8 lb through mid-March.

Herbage mass in the 6-acre pasture declined dramatically during the cool cloudy weather of late December. Steers in that pasture were allowed access to an additional 9 acres on January 10 in order to save the stand of wheat and maintain the cattle.

Conclusions / Implications

- ◆ Large amounts of hay consumed by stocker steers just before turnout onto pasture effectively prevented gorging.
- ◆ Stocker steers that had adequate forage gained an average of 3.2 lb daily for the first 60 days on pasture.
- ◆ When herbage mass of wheat declined below 800 lb of dry matter/acre, weight gain by steers also declined.
- ◆ A small amount of supplement helped maintain steer gains when wheat forage was short.

