

Evaluation of Low-input Growing and Finishing Options for Cattle Producers Year 2 Progress Report (2010-2011)

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Producers with smaller herds may not be able to afford equipment and facilities for bunk line feeding, yet have opportunity to market finished cattle to local butchershops or major terminal markets. Finishing their own calves will teach producers about the carcass value of their particular genetic base. Self-feeding may offer a practical, low-labor, minimal-equipment option for feeding calves after weaning. To assess animal performance of different feeding systems for beef calves, we evaluated bunk line feeding of a totally-mixed ration (TMR) versus self-feeding. Self-feeding with carefully formulated rations that include co-products, some grains, and appropriate additives, all balanced for optimum growth may be as (or more) profitable than retained ownership of feeder cattle in the best commercial feedyards.

Weaned mixed sex calves (n=56 head) from the Hettinger Research Extension Center were shipped to Carrington and fed a common ration for two weeks prior to the start of this study. Feeder calves were sorted randomly into three pens and fed until slaughter. The three treatments were: (1) Control - a totally-mixed ration fed in a fenceline bunk; (2) a self-fed, high-grain diet using the same concentrate ingredient (corn) as the TMR, with grass hay offered free choice in a bale feeder and (3) a self-fed diet formulated with corn and barley and forage offered free choice as in treatment 2. Average feed intake for each treatment by ingredient is reported in Table 1. The same brand of creep feeders were used as the self-feeders in this trial. Feeders were filled as required and monitored for feed flow. Calves were assigned in identical pens with fenceline water fountains and wind fence protection. Bedding was provided regularly during the winter months.

Table 1. Rations fed as totally mixed ration vs. self-fed (Percent DM basis).

Item	Bunk TMR	Self-fed Corn	Self-fed Corn/Barley
Rumensin + MGA	2	2	2
CaCO ₃	0.8	0.8	0.8
Rolled Corn	52.8	49.7	33
Rolled Barley	.	.	31.7
Wheat Midds	29.1	47.5	32.5
Grass Hay	15.3	Free Choice	Free Choice

Feeder calves were weighed every 28 days and feed intake and efficiency calculated overall. The feeding period was 114 or 123 days based on two slaughter dates. Each treatment group was represented equally for each market time, based on visual appraisal. Calves were marketed when it was estimated by visual appraisal that they had a minimum of 0.5 inches backfat and that 60 percent or more would grade USDA Choice or better. Calves were marketed locally or at a commercial abattoir at Tyson Meats, Inc. at Dakota City, NE. Carcass traits were determined after a 24-hour chill by trained individuals.

Figure 1 presents the average values for each pen/treatment for the second year of this multi-year/replicate study. Observations from year one for average daily gains (ADG) were 2.96 lbs (control TMR), 2.69 lbs (self-fed corn), and 2.86 lbs (self-fed corn/barley) overall for the feeding period. Year 2 ADGs were 2.89, 2.97, and 2.97 lbs for control TMR, self-fed corn and self-fed corn/barley; respectively.

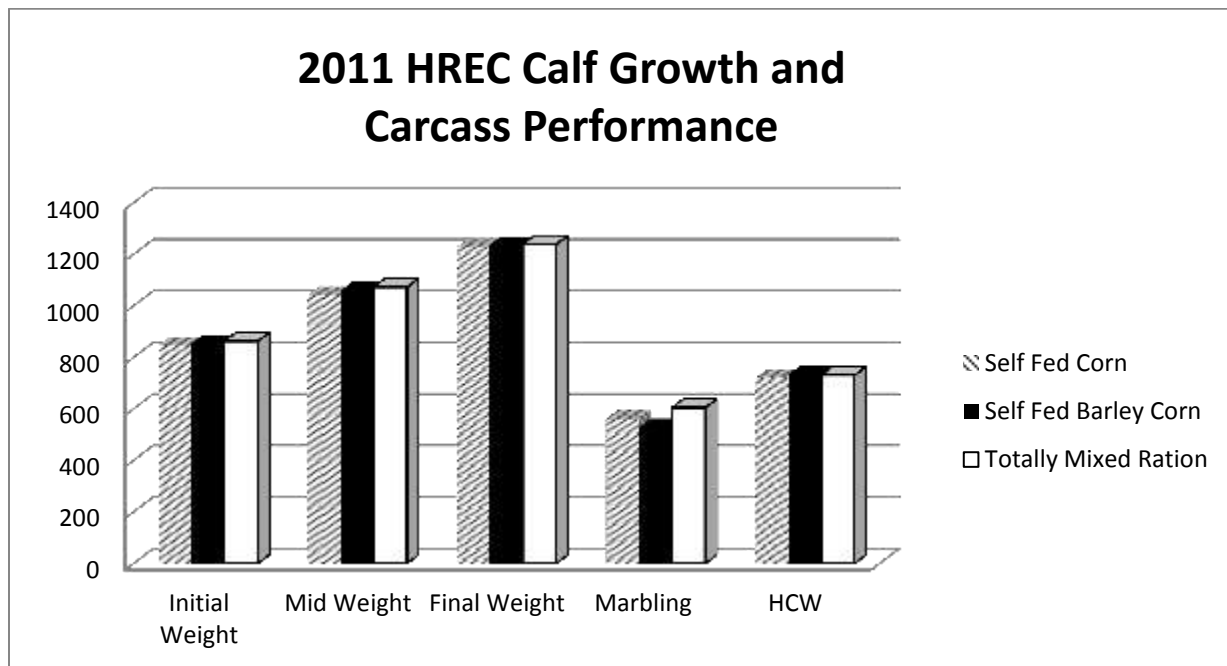


Figure 1. Calf growth and carcass performance in self-fed trial.

At the completion of two years of this study we observed modest gains and respectable carcass performance across all treatments. When comparing different ration formulations with the inclusion of barley to reduce ration cost we did not see a difference in animal performance. With the conclusion of year 3 in 2012 we will report the combined growth and carcass performance along with the economics of each management system.



Self-fed steers in the low-input finishing study.