

INFLUENCE OF DRYLOT GROWING PROGRAMS ON SUBSEQUENT PERFORMANCE OF STOCKERS GRAZING SMALL GRAIN PASTURE

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Story In Brief

Fifty-five beef steers averaging 380 pounds were fed two different growing rations in a drylot for 58 days prior to grazing of wheat pasture. A High-Gain group was fed 5 lb/day of whole shelled corn and free-choice alfalfa hay and a Low-Gain group was fed 1 lb/day of a 38% protein pellet with monensin and free-choice-grass hay. In the drylot, the High-Gain steers gained 44 pounds more (1.51 vs .75 lb/day) than the Low-Gain steers. After drylot, all calves grazed together on wheat pasture from November 21 to March 9. On wheat pasture Low-Gain steers gained 30 pounds more than High-Gain steers (2.3 vs. 2.04 lb/day). However, total weight gain was 17 pounds greater for the High-Gain cattle. This study suggests that when adequate wheat pasture is expected, calves can compensate for a significant portion of reduced short-term gains prior to wheat grazing.

(Key Words: Stockers, Wheat Pasture, Drylot, Growing Programs.)

Introduction

Small grain stocker producers receive and process stocker calves throughout the fall. Because of purchase timing, variability of wheat pasture growth, and other factors, these stocker calves are often held in drylot prior to pasture grazing. Since small grain pasture is a high-quality forage and often the stocker calves are young and light weight, the drylot target gain is an important management decision. The relationship between rate of gain in the drylot and subsequent grazing performance must be understood in order to analyze different management practices.

Previous trials on summer grasses (McLean et al., 1990; McCollum et al., 1991) showed stockers held at a gain under 1.0 lb/head daily prior to grazing, gained more weight on pasture than those fed a concentrate diet. This study was conducted to evaluate two common drylot programs in northwest Oklahoma and their effect on performance of stockers grazing small grain pasture.

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Materials and Methods

Fifty-five crossbred steer calves averaging 380 lb were randomly selected from 150 head of processed and healthy stockers. On September 21, 1992, they were individually weighed without shrink and randomly assigned to either a Low-Gain (LG) or High-Gain (HG) drylot treatment. The LG group was fed 1 lb/head daily of an Oklahoma Gold cube (38 percent protein, 100 mg/lb monensin) and were provided free access to Bermuda-grass hay. The HG group was adapted to 5 lb/head daily of whole shelled corn and provided free access to medium quality alfalfa hay. After 58 days in drylot, the steers were reweighed, without shrink, comingled and transported on November 18, 1992 to 128 acres of wheat pasture in Garfield County. Pasture growth was good to very good although continued rain made mud a problem much of the winter. During extreme weather a free choice commercial ration in a self-feeder was provided. Steers were removed from wheat pasture and the final unshrunk weight taken on March 9, 1993. Data were subjected to least squares analysis of variance using a model that included treatment and initial weight.

Results and Discussion

During the drylot phase, HG steers gained faster ($P < .01$) than LG steers (1.51 vs .75 lb/day, Table 1). However, for the 110-day wheat pasture grazing period, the LG group gained 30 pounds more ($P < .01$) than the HG group. The compensatory gain did not totally make up for the drylot weight gain difference as the HG group had greater ($P < .01$) total gain for the ownership period.

The use of compensatory gain to economically maximize total stocker gain has long been used by cattlemen. With increased genetic gain potential and stocker calf costs, the economic value of compensatory gain has become more complex for cattle managers to evaluate. Evaluation of drylot programs

Table 1. Effect of drylot gain on performance of steers grazing wheat pasture.

	Initial weight, lb	Drylot gain (58 d)	Wheat pasture gain (110 d)	Total gain (168 d)
High Gain	380	88 ^a (1.51)	225 ^a (2.04)	313 ^a (1.86)
Low Gain	380	44 ^b (.75)	255 ^b (2.31)	296 ^b (1.76)

a,b Column means are different, $P < .01$ (Average Daily Gain).

and subsequent performance can vary for each producer based on ration ingredient cost, cattle weight, cattle performance capability, labor, market timing and other factors. Break-even analysis is one management tool that can be utilized to evaluate these various production factors and their profit potential.

Break-even prices for the HG and LG drylot programs were evaluated with a Lotus-based stocker enterprise budget (Gill, 1989). This spreadsheet budget was used to determine a break-even price for the entire ownership period.

Based on the supplemental feed and cattle weight and gain, hay intake was estimated from the nutrient requirements table (NRC, 1984). Table 2 shows the pounds of supplement fed, estimated daily hay intake and the assumed feeding cost. Besides the drylot feed expenses, the break-even analysis also utilized a base enterprise budget for wheat pasture stockers, assuming typical expenses (Table 3).

The LG steers had the lowest drylot feed cost, total input cost, and total gain (Table 4). The HG steers had a lower break-even sale price although at a heavier sale weight.

If increased total weight gain or reduced ownership time is a management goal, it could be obtained if inexpensive feedstuffs were utilized during a drylot feeding period prior to grazing. If reduced total input costs is a management goal, then compensatory gain on small grain pasture can be effectively used for increased sale weight.

Table 2. Drylot ration cost.

	lb/day	\$/lb	\$/day	Feed costs 58 days
High Gain				
Whole corn	5.0	.05	.25	
Alfalfa hay ^a	5.8	.04	<u>.23</u>	
TOTAL			.48	<u>\$27.96</u>
Low Gain				
38% Protein	1.0	.11	.11	
Grass hay ^a	7.7	.025	<u>.19</u>	
TOTAL			.30	<u>\$17.40</u>

^a Estimated from NRC (1984).

Table 3. Budget factors for wheat pasture stocker enterprise budget.

Input	Cost
Cattle 380 lb @ 106.44/cwt ^b	\$404.47
Wheat pasture cost (\$2.50/cwt/mo)	53.20
Medical cost	10.00
Death loss - 2.0%	8.29
Cattle interest cost - 9.75%	18.40
Marketing	6.00
Labor	<u>8.40</u>
Total cost/head (Except drylot feed cost)	\$508.76

^a Ownership - 168 days.

^b 106.44-Oklahoma Department of Agriculture, Market Report, Oklahoma National Stockyards, Oklahoma City, September 14-15, 1992.

Table 4. Break-even comparisons at different drylot feeding expenses.

	High Gain	Low Gain
Total gain	312	295
Drylot feed cost ^a	\$27.96	\$17.40
Sale weight	692	674
Break-even, \$/cwt ^b	\$77.88	\$78.22

^a From Table 2.

^b Break-even reflects operating interest cost for feed and other expenses @ 9.75%.

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