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# Seasonal performance of finishing heifers

## **Abstract**

This study examined the impact of date of feedlot placement on feed conversion, daily gain, and death loss. Results indicated that heifers placed on feed from September to December required more feed per pound of gain, had lower daily gains and higher death loss, and generally exhibited more variation in feeding performance than heifers placed during the rest of the year. Cattle feeders should take these performance variations into account when developing budgets and calculating breakeven sale prices for heifers.

## **Keywords**

Cattlemen's Day, 1991; Kansas Agricultural Experiment Station contribution; no. 91-355-S; Report of progress (Kansas State University. Agricultural Experiment Station and Cooperative Extension Service); 623; Beef; Feeding performance; Seasonality; Heifers

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## SEASONAL PERFORMANCE OF FINISHING HEIFERS

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and J. Mintert<sup>1</sup>*

### Summary

This study examined the impact of date of feedlot placement on feed conversion, daily gain, and death loss. Results indicated that heifers placed on feed from September to December required more feed per pound of gain, had lower daily gains and higher death loss, and generally exhibited more variation in feeding performance than heifers placed during the rest of the year. Cattle feeders should take these performance variations into account when developing budgets and calculating breakeven sale prices for heifers.

(Key Words: Feeding Performance, Seasonality, Heifers.)

### Introduction

Many cattle feeders and industry analysts develop budgets and calculate breakeven prices on a monthly basis to determine the potential profitability of finishing cattle. These budgets require information pertaining to feeder and ration prices and cattle performance. Reasonable estimates of feeder and ration costs are fairly easy to obtain. Cattle performance, on the other hand, is difficult to ascertain. This study used fed cattle closeouts from a western Kansas feedlot to determine the impact of placement date on feed conversion, average daily gain, and death loss of heifers.

### Procedures

Feedlot performance information was obtained from a western Kansas feedlot's monthly closeouts covering 704 pens of heifers (132,899 head) placed on feed during the 10-year period from 1980 to 1989. Specifically, feed conversion, daily gain, and death loss were obtained for heifers with an initial weight between 600 and 700 lb. Feed conversions were reported on an as-fed basis on the closeouts. Information relating to the actual composition and dry matter content of the rations fed was not available. Thus, feed conversions were converted to a dry matter basis by adjusting monthly feed conversions to levels that yielded an annual average feed conversion of 6.5 lb. This procedure did not change the relationship between monthly feed conversions.

### Results and Discussion

Table 1 presents the averages and standard deviations of feed conversion, daily gain, dry matter feed intake, and death loss for heifers placed during the 1980-1989 period. Feed conversions on a dry matter basis exhibited a seasonal pattern (Figure 1) and were about 10% higher for heifers placed from September through December. In addition, heifers placed on feed in September through December had an average 37% greater variation in feed conversion than those placed during the rest of the year. This indicates that departures from expected feed conversion will be about 37% higher for heifers placed during the last 4 months of the year.

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Figure 2 depicts daily gains by placement month for 600 to 700 lb heifers. A distinct seasonal pattern was evident. Average daily gains were about 8% lower for heifers placed in September through December than for those placed in the rest of the year. Variation in daily gain was about 29% higher for heifers placed in September through December.

In contrast to feed conversion and daily gain, feed intake was relatively constant

throughout the year. Daily feed intake ranged from a low of 17.49 lb in May to a high of 18.51 lb in December. The relative stability of feed intake implies that feed conversion and average daily gain move in opposite directions by about the same magnitude across months.

Death loss also tended to vary with the month in which heifers were placed. Death losses were higher than normal for heifers placed in September, October, and November. The highest death loss was for heifers placed in November (1.86%).

**Table 1. Average and Standard Deviations of Selected Feeding Performance Measures by Month Placed on Feed for 600 to 700 Lb Heifers, 1980-1989**

| Month Placed On Feed | <u>Feed Conversion</u> <sup>1</sup> |                 | <u>Daily Gain</u> <sup>2</sup> |                 | <u>Feed Intake</u> <sup>3</sup> |                 | <u>Death Loss</u> <sup>4</sup> |                 |
|----------------------|-------------------------------------|-----------------|--------------------------------|-----------------|---------------------------------|-----------------|--------------------------------|-----------------|
|                      | Avg                                 | SD <sup>5</sup> | Avg                            | SD <sup>5</sup> | Avg                             | SD <sup>5</sup> | Avg                            | SD <sup>5</sup> |
| January              | 6.25                                | 0.43            | 2.86                           | 0.25            | 17.88                           | 1.02            | 0.81                           | 0.66            |
| February             | 6.26                                | 0.28            | 2.83                           | 0.17            | 17.72                           | 0.82            | 0.79                           | 0.84            |
| March                | 6.25                                | 0.41            | 2.91                           | 0.25            | 18.19                           | 1.01            | 0.69                           | 1.59            |
| April                | 6.28                                | 0.35            | 2.87                           | 0.18            | 18.02                           | 0.97            | 0.79                           | 1.60            |
| May                  | 6.36                                | 0.41            | 2.75                           | 0.23            | 17.49                           | 1.11            | 0.84                           | 0.90            |
| June                 | 6.30                                | 0.40            | 2.78                           | 0.22            | 17.51                           | 1.29            | 0.77                           | 0.78            |
| July                 | 6.16                                | 0.34            | 2.93                           | 0.22            | 18.05                           | 0.88            | 0.84                           | 1.28            |
| August               | 6.41                                | 0.37            | 2.83                           | 0.24            | 18.14                           | 0.83            | 0.72                           | 1.13            |
| September            | 6.75                                | 0.52            | 2.63                           | 0.29            | 17.75                           | 1.12            | 1.50                           | 1.42            |
| October              | 6.93                                | 0.58            | 2.58                           | 0.31            | 17.88                           | 1.11            | 0.98                           | 1.22            |
| November             | 7.10                                | 0.66            | 2.55                           | 0.31            | 18.11                           | 1.38            | 1.86                           | 2.58            |
| December             | 6.96                                | 0.58            | 2.66                           | 0.31            | 18.51                           | 1.24            | 0.61                           | 0.79            |

<sup>1</sup>Feed/gain, dry matter basis.

<sup>2</sup>Lb per head daily.

<sup>3</sup>Lb dry matter per head daily.

<sup>4</sup>Percent.

<sup>5</sup>Standard deviation around the mean.

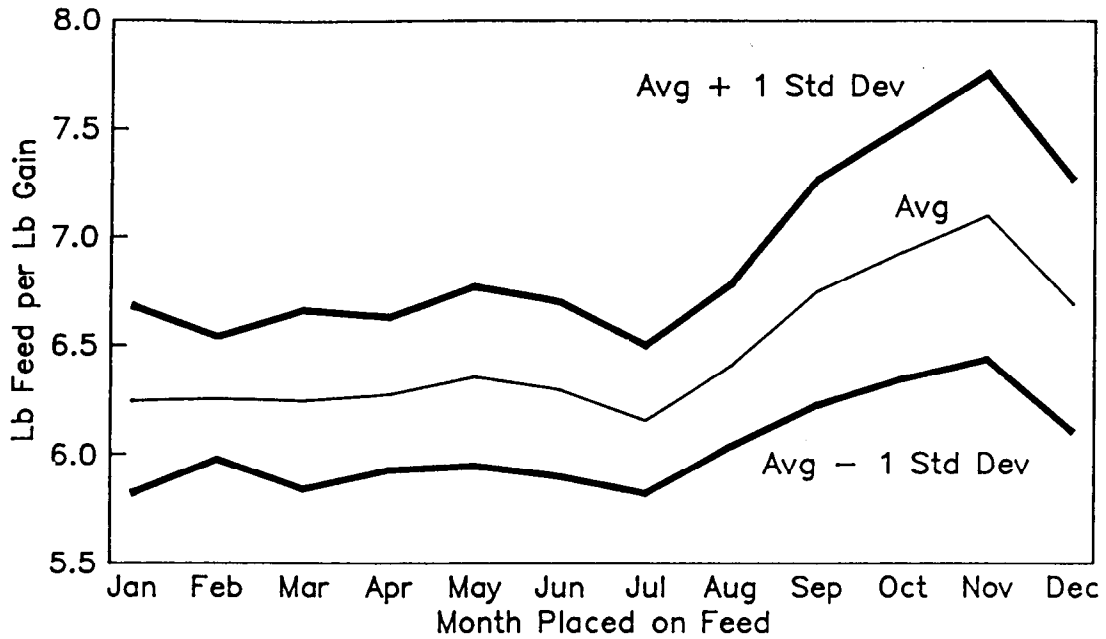


Figure 1. Average Feed Conversion by Month Placed on Feed for 600 to 700 lb Heifers

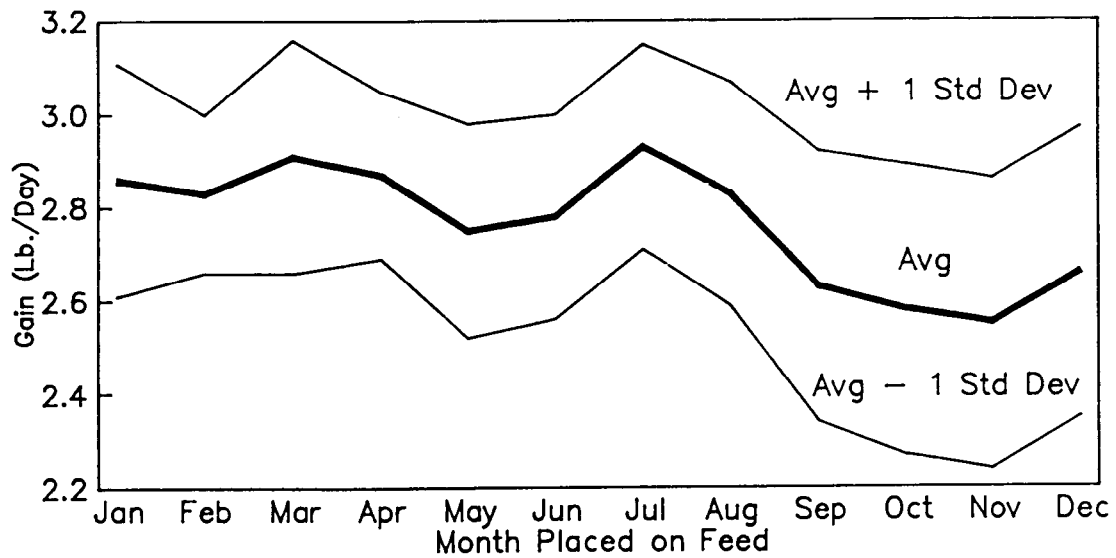


Figure 2. Average Daily Gain by Month Placed on Feed for 600 to 700 lb Heifers