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Management options for pregnant feedlot heifers

Abstract

Heifers that were 167 days pregnant when slaughtered gained faster and more efficiently than open heifers, or heifers that had been aborted with a prostaglandin analog at 83 or 138 days, unless the slaughter weight was adjusted for the 1.7% lower carcass yield (dressing %). When the slaughter weights for all these management options were adjusted using the carcass yield of open heifers, there was no difference in gain except for the depressed performance associated with late abortions. However, open heifers were 6.7% more efficient than heifers pregnant when slaughtered. Heifers aborted at 138 days had substantially reduced gains and feed conversion. These results indicate that because of increased carcass yield, packers can afford to pay a premium for heifers that are open or have been aborted during the first trimester. Unless a premium is paid for open heifers, pregnant heifers (provided they are sold before calving) sold on a live weight basis might be more profitable because of the apparent increased gain and efficiency.

Keywords

Cattlemen's Day, 1983; Report of progress (Kansas State University. Agricultural Experiment Station); 427; Beef; Feedlot heifers; Gain; Performance; Carcass yield

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Managements Options for Pregnant Feedlot Heifers

Jack Riley, Mike Simon, Lou Ellen Keay,
and Guy Kiracofe

Summary

Heifers that were 167 days pregnant when slaughtered gained faster and more efficiently than open heifers, or heifers that had been aborted with a prostaglandin analog at 83 or 138 days, unless the slaughter weight was adjusted for the 1.7% lower carcass yield (dressing %). When the slaughter weights for all these management options were adjusted using the carcass yield of open heifers, there was no difference in gain except for the depressed performance associated with late abortions. However, open heifers were 6.7% more efficient than heifers pregnant when slaughtered. Heifers aborted at 138 days had substantially reduced gains and feed conversion.

These results indicate that because of increased carcass yield, packers can afford to pay a premium for heifers that are open or have been aborted during the first trimester. Unless a premium is paid for open heifers, pregnant heifers (provided they are sold before calving) sold on a live weight basis might be more profitable because of the apparent increased gain and efficiency.

Introduction

Pregnant heifers create problems for cattle feeders because they may calve during the feeding period. However, a heifer in early pregnancy when placed on a finishing ration might be slaughtered before she calves, and thus have the potential to gain faster and more efficiently because of altered hormone production.

Recent FDA approval of prostaglandin as an abortifacient for feedlot heifers has given cattle feeders added management choices. This trial was conducted to gather essential information regarding performance and potential side effects of four pregnancy management options.

Procedure

All heifers were Angus X Hereford, purchased at weaning from one Kansas ranch, then fed a growing ration from November 21, 1981 to start of finishing trial on August 31, 1982. Eighteen were left open, 24 were aborted at an average of 83 days (Abort early), 23 aborted at an average of 138 days (Abort late), and 23 were left pregnant. The abortifacient aspect of the trial is summarized on pages 22 and 23 of this Progress Report. A finishing ration composed of (dry matter basis) 84% rolled milo, 10% sorghum silage and 6% protein and mineral supplement was fed for 84 days, except for the late abortion group which was slaughtered after 77 days. Each group was fed together in a

feedlot pen, without replication. Another group of bred heifers will be maintained on a grower ration until calving, then changed to a finishing ration for a 30 day nursing period (calves will be early weaned) and an additional 30 days, in an attempt to produce a live weight and carcass grade comparable to the other four management groups. Those results will be published in 1984.

Table 26.1. Effect of Pregnancy Management Options on Performance of Feedlot Heifers

Management options:	Open	Pregnant	Abort early	Abort late
No. heifers	18	23	24	23
Initial wt, lb	779.3	779.8	790	858
Final wt, lb	1035.8	1065.6	1041.6	1034.1
Gain, lb	256.5	285.8	251.6	176.1
ADG, lb	3.05 (84 d)	3.40 (84 d)	3.00 (84 d)	2.29 (77 d)
Efficiency, DM/lb gain	7.36	7.06	8.04	9.39
Carcass wt, lb	630.2	629.2	634.9	615.0
Dressing %	60.8	59.1	61.0	59.5
USDA grade:				
No. Prime	1	0	1	0
No. Choice	15	23	23	22
No. Good	2	0	0	1
Adj. final wt, lb ¹	1035.8	1034.9	1044.3	1011.5
Adj. gain, lb ¹	256.5	255.1	254.3	153.05
Adj. ADG, lb ¹	3.05	3.04	3.03	2.00
Eff. DM/lb adj. gain	7.36	7.89	7.96	10.75

¹Final weight, gain, daily gain and efficiency adjusted to the same carcass yield as the open heifers.

Results and Discussion

The effect of pregnancy management options on the performance of pregnant feedlot heifers is shown in Table 26.2. The heifers slaughtered at an average 167 days of pregnancy were not visually different from the open heifers or those aborted at 83 days, and would probably have brought the same price if sold on a live weight basis. The pregnant heifers gained faster (3.4 vs. 3.0 and 3.05) than the open or early aborted heifers and were the most efficient. But probably because of the conceptus, the carcasses yielded 1.7% less. To more accurately compare the management options, all gains and efficiencies were adjusted, using carcass weight and the carcass yields of the open heifers. After adjustment, the open, pregnant and early aborted heifers all gained equally, but the open heifers were 6.7% more efficient. Carcass quality grade did not differ for the four pregnancy management options.

One group of heifers was continued on a growing ration until mid-pregnancy (aborted at avg. 138 days) and then fed the same finishing ration for 77 days in order to obtain approximately the same slaughter weight as the other 3 management groups. This late aborted group gained substantially slower (at least 1.0 lbs per day on an adjusted basis) and less efficiently suggesting that an abortifacient, if used, should be used early.

One major problem with marketing heifers is that packer buyers may assume a certain pregnancy rate and discount the entire pen for the expected lower yield. Our trial indicates that a feeder with a pen of open or early aborted heifers is justified in asking a premium price. If traditional marketing assumes a 20% pregnancy rate, then a premium of at least \$.30/cwt live weight would be realistic.

THE PROBLEM WITH DRESSING PERCENT

Cattle feeders sell live weight. Meat packers sell carcass weight. Dressing percent is the relationship between them. Experimental treatments are generally evaluated using live weight gains, but dressing percent is often included. Carcass weight can be determined with a high degree of accuracy, but live weight is influenced by such factors as feed and water intake, gut fill, and anything that must be discarded. Evaluating treatments based on dressing percent is dangerous because an over-fat animal will have a higher dressing percent than his leaner counterpart. Rate of gain (lbs per day) will be influenced by any errors in measuring live weight. Because rate of gain is an important end-point in most of our experiments, we often determine the dressing percent for an entire group of cattle, then "reconstruct" the ending weight by dividing the carcass weight by the dressing percent. That yields a much more accurate measurement of rate of gain than using simple live weight at the end of the experiment.
