

Management of Pregnant Heifers in the Feedlot

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Given our recent cattle cycle, more beef heifers have been placed on feed. Pregnancy rates up to 17% have been reported. The range of pregnancy rates reported by Edwards in over 18,000 pregnancy tested heifers was 3% in June and 15% in December.⁵ Packing houses in the Pacific Northwest report a 3% pregnancy rate in the summer and fall. Between January and April each year, the rate climbs to 15%. Death losses attributed to calving in Pacific Northwest feedlots averages 3% of total deads during the spring months.

Problems associated with pregnant heifers in the feedlot include shrink, dystocia, retained fetal membranes, paralysis, death loss, and loss in carcass quality and feeding performance. The economics of these potential problems are substantial. It has been estimated that pregnant heifers cost a feedlot between \$44.00 and \$115.00 a head.^{2,7}

Packers and feeders have estimated that pregnant heifers may shrink as much as 180 pounds due to calving.¹ Losses include the calf (80 to 100 pounds), fluids (40 pounds), membranes (30 to 40 pounds), a distended uterus and udder trim. When heifers either experience abortion or parturition³ significant losses in performance and loss of yield occur.

Post-calving complications consume considerable man-hours for intense therapy and care. Often heifers with small pelvic dimensions are bred to performance bulls. The wintertime is usually spent managing BRD in feedyards, and having to devote time to downers, retained membranes, and treatment of uterine infections can be overwhelming, let alone unrewarding. If these heifers do respond to treatment, it takes weeks to months before they are back on feed and performing efficiently.

Death loss and treatment costs are only part of the economic picture. Feeding performance and effects on carcass quality must also be considered. In data collected by Monfort of Colorado, average daily gain, dry matter intake and feed conversion were not statistically different between pregnant heifers and open heifers.⁷

In a study conducted by Edwards and Laudert,⁴ aborted, pregnant, and recently calved heifers were compared. The study demonstrated that there was a statis-

tical difference in average daily gain and dressing percentage (Table 1).

Table 1. Feeding performance of open, pregnant and recently calved heifers.*

Item	Open	Pregnant	Recently calved
Daily gain	1.89 ^a	2.17 ^b	0.82 ^c
Dressing percent	61.6 ^a	57.6 ^b	59.2 ^c

*Those with differing superscripts differ at the 0.01 level.

If we look at the interaction between stage of pregnancy when aborted and daily gain, dressing percent and percent Choice, we see that aborting heifers before 120 days gestation results in better daily gain. In this study, quality grade and dressing percentage were not impacted by when abortion occurred (Table 2).⁴

Table 2. Feed performance in early and late aborted heifers.

Item	Aborted <120 Days	Aborted >120 Days
Daily gain	1.98 ^a	1.69 ^b
Dressing percent	62.2	61.6
% Choice	55.3	60

In an industry survey by Bill Bennett in 1985, he noted that the feedlot placed an increased value of \$30 per head on open heifers as compared to those that were pregnant. In this same report, he reported that the packers estimated a 3% drop in dressing percent in pregnant heifers.² This was confirmed recently by packing houses in the Pacific Northwest.

Stanton and Bennett reported that when carcass weights were considered, along with management expenses such as pregnancy testing and aborting heifers, pregnant heifers have added costs of about \$21.00 a head to the feedyard.⁶

All of these numbers can be confusing, but what do they really mean in regard to proper management of pregnancy in the feedlot? In summary they mean that open heifers are the best option. They will gain equal to or about 0.1 lb per day better than pregnant or aborted heifers and will convert almost 8% better.⁵ However in this same study⁵ aborted heifers out-performed pregnant heifers by nearly the same amount. The bottom line is that when profit and loss is figured on a carcass basis, pregnancy and abortion in the feedlot both lose money. On a practical basis, this means that an action plan needs to be developed to manage pregnancy in heifers. The choice of management strategies will depend on whether fat cattle are sold based on carcass merit or on a live-weight basis.

If cattle are sold live, and natural abortion or calving does not occur, the data would suggest that there is little difference in feeding performance, however, the results of the Edwards study would conflict with this. Pregnancy testing to determine the stage of gestation in relation to the expected days on feed can be determined. If they will calve during the feeding period, abortion can be accomplished at processing.

Here in the Pacific Northwest, cattle are sold on a formula basis. Therefore action plans need to be developed to produce the best carcass. In this regard, Bennett² looked at three different management strategies (Table 3). He determined that pregnancy testing and selling-back the pregnant heifers was the best plan, costing \$50.24 per pregnant heifer.

The data suggests that screening yearling heifers into the feedlot by pregnancy testing is a viable way to

cut potential losses. However this practice includes the use of abortifacients.

Edwards and Laudert⁴ reported that there was a \$17.00 advantage to aborting heifers. They also stated that 56% of pregnant heifers aborted naturally by 105 days on feed without artificially being aborted. The aborted group only had 4% still pregnant after 105 days.

We know that abortion products are not as effective after 120 days of gestation. In the Edwards study, Bovilene was 100% effective in aborting heifers less than 120 days pregnant. Edwards also determined that Bovilene and Estrumate, when combined with 20 mg of dexamethasone, were 100% effective in aborting heifers 120 days pregnant. Lutalyse, in this study, was 85% effective in aborting heifers.

When these strategies are evaluated, one needs to remember that there are potential negative effects of using dexamethasone at processing in stressed new arrivals to the feedyard. Waiting three weeks to pregnancy check and abort is an option if management is willing.

A management plan needs to take into consideration feeding performance, carcass merit, health costs, death loss, and the way fat cattle are marketed. Indeed different feedlots may adopt different pregnancy management programs.

Options

1. Buy only spayed and guaranteed open heifers. (Nice when you can get it)
2. Don't feed heifers at all. (An alternative)
3. Ride heifer pens carefully, and ship hard bagged heifers prior to calving. (This program has had the most problems)
4. Pregnancy check all new heifers and abort those heifers found pregnant. Abort at 21 days on feed. (This has been our best option)
5. Abort all heifers coming into the yard at 14 days on feed. (This program does not take into consideration the stage of pregnancy. Dexamethasone is usually not used in these programs, therefore, late term pregnancies will not be affected. This program also has expensive up front costs.)

Pregnant heifer management is a challenge to the feeding industry. Pregnant heifers represent a loss to the feedyard in numerous areas. Most packing plants don't mind pregnant heifers because they are buying the cattle on a grade and yield basis, and they get the fetal calf serum, which they sell for \$25.00 to \$110.00 per liter. Therefore when management strategies are evaluated, all of these areas need to be considered. If the last two decades of experience have taught us anything, pregnancy testing on arrival and the judicious use of abortifacients will generate the most cost-effective program.

Table 3. Management plans for heifers in the feedlot and their losses.

Plan	Loss
Buy heifers and place them on feed without preg testing and abortion	\$115.42
Buy heifers and place them of feed. On entry pregnancy testing and abortion when needed	\$52.76
Place heifers on feed with pregnancy testing, selling back the pregnant heifers	\$50.24

References

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