Feedlot Session II

"Production Procedures in the Feedlot"

Moderator: **Jim Sears**

Economic and Production Considerations of Common Feedlot Procedures.

Louis Perino, D.V.M., Ph.D.,
Veterinary Educational Center,
University of Nebraska, Clay Center, NE.

Certain procedures routinely carried out on calves have negative performance effects. The first step in evaluating each procedure is to determine if it has a significant effect on performance and, if so, estimate the magnitude, so its economic value can be quantified.

Surgical castration is such a procedure which is often carried out after arrival at the feedyard. Castration has been shown to significantly affect both short and long term gains in calves of various weights (Table 1).[1,2,3,4] Reductions in feed efficiency have also been reported.[4]

As is characteristic of distress, large increases in levels of cortisol are seen following surgical castration.[3,5] Increased cortisol levels have been associated with many environmental and management factors and cause decreases in a variety of indicators of immune status.[6,7,8,9,10] Thus, morbidity and mortality rates may be increased by surgical castration.[1] However, there are also reports showing no significant effects upon morbidity rates.[4]

Because of the intuitive association between surgical castration and reduced performance there are usually market discounts on bull calves. In one survey these varied with season and calf weight, ranging from $1.41 to $5.60 per hundred pounds.[11] If averages from reports in the literature on the effects of surgical castration are used in economic projection models, [12] the economic liability can be estimated at $9.44 per hundred pounds on purchase price, or a $4.51 per hundred pounds increase in the breakeven, compared to steers on the same weight. Assisting in determining the true value of different classes of cattle such as bulls, as well as as the benefit of minimizing the negative impact of procedures such as castration by ensuring proper technique, represent opportunities to market veterinary expertise.

There are also economic considerations associated with the procedures used to manage pregnant feedlot heifers.[13,14] Formulas to predict the value of different management procedures can be created based on estimates of the economic liability associated with pregnant heifers (Table 2).[13] These can be useful in demonstrating the economic benefits of different heifer management strategies.

Table 1. Effect of Castration on Average Daily Gain.

Weight at Castration	Days on Feed	Net Effect	Reference
592	100	-15%	1
550	96	-32%	1
705	196	-10%	2
576	49	-20%	3
515	29	-22%	4
515	140	-11%	4
326	64	-8%	4
437	45	-20%	4

Table 2. Formulas to predict the value of different management procedures for pregnant heifers.[13]

With no treatment: $/cwt = -0.129 + (PG% X 18.09)
Preg check & abort: $/cwt = -0.0023 + (PG% X 8.13)

Dehorning is another common feedlot procedure. The effects of dehorning on performance are less clear cut. There are reports of both decreases[1] and no significant effects on gain.[4,15] There are also studies showing transient increases in plasma cortisol levels associated with dehorning.[15] Horned cattle are currently discounted $0.49 to $0.52 per hundred pounds.[11]

The correct execution of other routine feedlot procedures such as anthelmintic, implant, and vaccine adminis-

tration, as well as routine injection technique are all important and provide training opportunities to the health management consultant.

The value of proper injection technique is difficult to assess. However, with increasing packer scrutiny of problems associated with poor injection techniques, such as abscesses and granulomas, management steps to further minimize these will be required. Additionally, optimum efficacy of injectables, such as vaccines, anthelmintics, and antibiotics, requires proper delivery.

Surveys of implanting techniques report problems in 34% of implants examined.[16] This represents an estimated economic loss of $4.94 per head. Following a management program to improve implanting technique the problem rate dropped to 10%.

Opportunities to market service and expertise in feedlot health management exists in the routine procedures that are carried out daily. Ensuring correct procedural technique can minimize negative effects of certain procedures and maximize efficacy of products used. Demonstration of the positive economic impact further justifies the critical role of the veterinarian.

References

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