

Assessing the Value of Preconditioning to Feedlots

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Introduction

Without question, the economics associated with the preconditioning of beef calves is one of the most controversial topics in veterinary medicine and animal science. This paper will be limited to discussing the feedlot viewpoint regarding preconditioned calves. Note that in specific instances this viewpoint will be diametrically opposite to the perspective of the cow/calf producer.

The Fundamental Issue

By definition, feedlot managers often have a "negative attitude" toward preconditioned calves. This is because the concept of preconditioning violates the first principle of cattle buying, which can be summarized as "buy 'em cheap and buy 'em green." Ironically, mismanaged calves often represent the best opportunity for profit maximization by the feedlot. Consider the classic example of the calf reared on a marginal pasture in Western North America: numerous studies have consistently demonstrated that these calves are either losing weight or barely maintaining weight past October 1. From the feedlot perspective these green calves are highly desirable cattle because of the compensatory gain phenomenon. Moreover, the basic premise of a commercial cattle feeding operation is that it can put a pound of gain on an animal cheaper than a cow/calf producer. Feedlot operators are not agricultural missionaries. As a result, one has to be very naive to believe that the economic aspirations of the cow/calf producers are compatible with the motivation for profit maximization by the feedlot owner. It is important to remember that in a capitalist system, if a transaction occurs where the seller does marginally better, then the buyer does marginally worse, and vice-versa.

The Crux of the Problem

In theory, preconditioned calves should offer benefits to cattle feeders with respect to health status and subsequent performance (A.D.G. and F.E.). Unfortunately, there are few properly conducted trials to substantiate claims of reduced morbidity and mortality or improved performance. In fact, the published literature on preconditioning is embarrassing to the veterinary profession. It is difficult to believe that veterinarians, as trained scientists, have been

involved with such garbage trials, testimonials and ridiculous attempts to prove the merits of preconditioning. The available data on preconditioning are an example of veterinary medicine at its worst—improper study design, lack of external validity, lack of controls, incorrect statistical analyses, distorted economics, and invalid protocols. Reviews of the "controlled" preconditioning data are not encouraging. In a review of seven trials, Cole (1) reports that preconditioning reduced morbidity by six percentage points and mortality by 0.7 percentage unit below that of the control groups (Table 1). Moreover, preconditioning did not affect feedlot performance if the calves were fed longer than 100 days. Using unpublished data, Jordan calculated an economic benefit to the feedlot of \$7.32 per 550 lb. calf or \$1.32/CWT. However, in certain geographic locations the anticipated morbidity and mortality are significantly higher than experienced by the subject cattle in these seven trials. For example, in Western Canada pull rates of 60-75 percent and a death loss of 3 percent is not uncommon. In this scenario, one could hypothesize that a preconditioned calf would command a higher premium. However, the bottom line remains that the appropriate data are not available to determine the value of the preconditioned calf in the high risk environment.

TABLE 1. Seven Trial Summary of Control (Non-preconditioned) and Treated (Preconditioned) Calves

	Control Group	Treated Group
Morbidity	26.50%	20.40%
Mortality	1.44%	0.74%

Relative Significance of Health Problems

In order to understand the feedlot assessment of preconditioning, one must be aware of the relative economic significance of health problems in the overall calf feeding picture. The costs associated with feedlot production can be divided into six categories which include purchase price, feed, interest, yardage, veterinary (drugs and services) and

death loss. In Table 2, the production costs are listed for a typical pen of fall placed, auction mart derived, non-preconditioned calves in Western Canada. The death loss was 2.6%, the purchase price was \$84.38/lb. and the initial weight was 669 pounds. If one assumes that preconditioning would reduce the mortality by 50% and the drug expenditures by 50%, then a net benefit of \$15 per head would emerge. Consequently, in terms of purchase price, the feedlot owner could have paid a maximum premium of \$2.24/CWT. This premium would not result in an ecstatic response from the cow/calf sector.

TABLE 2. Economics of Calf Feeding

	Total \$	\$/HD	lb/Gain	% of Total Costs
Purchase price	175,483.09	564.25		64.00%
Feed	66,388.04	213.47	39.25	24.20%
Interest @11%	12,852.22	41.33	7.60	4.69%
Yardage	10,333.28	33.23	6.12	3.76%
Veterinary	4,671.22	15.02	2.76	1.70%
Death	4,514.00	14.51	2.67	1.65%

Purchase Price: \$84.38/lb.
 Purchase Weight: 669 lbs.
 Gain per Head: 544 lbs.
 No. of Cattle in: 311

Additional Complications

Procurement of feeder cattle is a very imprecise art which can be influenced by a host of factors such as individual investment strategies, tax implications, profit anticipation, etc. For example, when a feedlot manager perceives that it is the right time to purchase cattle, then that individual will push to accomplish the task. In this situation, the relationship between price and quality can get distorted. Conversely, in circumstances where the demand for calves gets soft, the preconditioned calf may not fetch a premium simply because of bad market timing. One has to be very skeptical of data which show that preconditioned calves receive a \$3-5/CWT premium. It is impossible to calculate the relative value of these same calves assuming

that preconditioning did not occur. That is, certain preconditioned calves will command a premium because they are top quality calves to begin with in terms of genetics (frame and breed type) or reputation.

In financial terms, feedlots tend to be risk takers. Management of risk and determination of risk position is essential for the survival of the feeding enterprise. The majority of feedlots are willing to assume risk regarding the health status of feeder cattle. By comparison, this risk is insignificant relative to the market risk incurred when the cattle are sold. Apart from having the financial resources to withstand the occasional health "wreck," the feedlot has an incentive to develop the protocols and expertise to manage high risk calves. Obviously, if a feedlot acquires such skills, then the feedlot will seek to buy high risk calves to exploit a competitive advantage.

Conclusions

In the final analysis, when it is assumed that preconditioning will result in a 50% reduction in mortality and health costs, the net benefit to the feedlot operator is only \$15 per head. It is not surprising that the preconditioning program has not become a major factor in the North American cattle feeding industry.

References

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