

Livestock Efficiency

COMPARISON OF PASTURE AND DRYLOT CALF PRECONDITIONING PROGRAMS

AUTHORS: C. P. Mathis, S. H. Cox, C. A. Löest, M. K. Petersen, R. L. Endecott, A. M. Encinias, and J. C. Wenzel

THE STORY IN BRIEF: This comparison of low-input pasture preconditioning and high-input drylot preconditioning of beef calves on the ranch of origin revealed that pasture preconditioned calves yielded greater net return during both the preconditioning and finishing phases. Preconditioning programs that conform to “VAC-45” marketing requirements can vary in intensity and cost. However, the additional gain achieved with higher-input systems may not offset higher costs; and stress associated with dietary change and confinement immediately following weaning may impact subsequent death loss. Low-input pasture preconditioning systems can be more profitable than high-input drylot preconditioning systems of the same duration during the preconditioning and finishing phases.

THE PROBLEM: Millions of calves are preconditioned in the United States each year according to Value Added Calf (VAC) guidelines. However, in preconditioning programs like VAC-45, there can be a great variation in the level of input and in calves’ performance during the 45-day post-weaning period. Controlled comparisons of VAC-45 preconditioning methods are needed in order for producers to make more informed decisions regarding the most cost-effective approach to precondition calves and the best methods to prepare calves to stay healthy following shipping and commingling.

OBJECTIVES: The objective of this study was to compare a low-input pasture preconditioning system to a high-input drylot system of the same duration (~45 days) to evaluate calf performance and profit during the preconditioning and finishing phase.

DURATION: September 2003 to July 2006

APPROACH: Over 3 years, 250 calves were used to compare a low-input pasture preconditioning system to a high-input drylot preconditioning system. Performance and profit of calves during the preconditioning and finishing phase were evaluated. Treatments: 1) high-input drylot preconditioning system (DLOT; corn/wheat midds-based pellet plus 1.5-2.5 lbs of alfalfa hay/day) or 2) low-input pasture preconditioning system (PAST; native range pasture plus 1.25 lb/day of a 32% CP range cube delivered 3x/week). All calves qualified as “VAC-45”, but premiums for preconditioning were not applied to prices. After preconditioning, all steers were fed at a commercial feedlot (Double A Feeders, Clayton, NM), then sold on an individual carcass basis.

RESULTS:

Preconditioning Phase. The drylot preconditioned calves gained 0.32 lb/day more during preconditioning, and were worth \$6.90/hd more. The higher value of the drylot preconditioned calves was offset by \$52.76 greater cost for drylot preconditioning. Consequently, net income during preconditioning was \$44.59 greater for pasture preconditioned calves even though they gained less weight than DLOT calves. A final price premium of \$5.00/cwt would have been required for the drylot preconditioning system to be profitable in the market conditions of the study; however, the pasture preconditioning system was profitable without a premium.

Finishing Phase. There were no differences in overall feedlot ADG, finished body weight, DOF, or any measured carcass characteristics. There was a tendency for drylot steers to have more sickness, with 13 percentage units more treated steer. The drylot preconditioned steers also had greater death loss (7.6% vs. 0%), indicating that after shipping the drylot preconditioned steers likely experienced some degree of suppressed immune function as compared to pasture preconditioned steers. During finishing the pasture preconditioned steers profited \$103/hd more than the drylot preconditioned steers. Approximately \$70/hd of the profit difference between treatments resulted from death loss, and the remaining \$33 difference occurred primarily because pasture preconditioned steers had numerically greater carcass weight and prices than drylot preconditioned steers.

POTENTIAL APPLICATION: In the current era of elevated costs for feed and other inputs, it is important to consider methods of preconditioning that minimize preconditioning cost of gain and adequately prepare the calves to stay healthy after shipping. These results indicate that a low-input pasture preconditioning approach can reduce preconditioning cost compared to drylot preconditioning, and may improve subsequent health.

EDUCATIONAL PLAN:

6. Develop a NMSU Cooperative Extension Service Circular on preconditioning practices
7. Continue disseminating results through Extension presentations to beef producers

REFERENCES:

- Mathis, C. P., S. H. Cox, C. A. Löest, M. K. Petersen, R. L. Endecott, A. M. Encinias, and J. C. Wenzel. 2008. Comparison of Low-input Pasture to High-input Drylot Backgrounding on Performance and Profitability of Beef Calves through Harvest. *Prof. Anim. Sci.* 24:169-174.
- Mathis, C. P., S. H. Cox, M. K. Petersen, and C. A. Löest. 2007. Low-input Pasture vs. High-input Drylot Backgrounding: Research Report. In: *Proc., New Mexico Cattle Growers' Short Course*. Raton, NM. pp 22-26.

Impact of preconditioning system on performance and profit during the preconditioning and finishing phases

Item	Preconditioning System	
	Drylot	Pasture
Preconditioning Phase		
# of head	125	125
ADG, lb/day	1.42	1.10
Total Cost, \$	66.77	14.01
Net Income, \$	(28.87)	15.72
Finishing Phase		
# steers		
% Treated for sickness	47.6	34.3
% Death loss	7.6	0.0
Net Income, \$	(98.33)	4.68