

BEEF CATTLE RESEARCH UPDATE

Britt Hicks

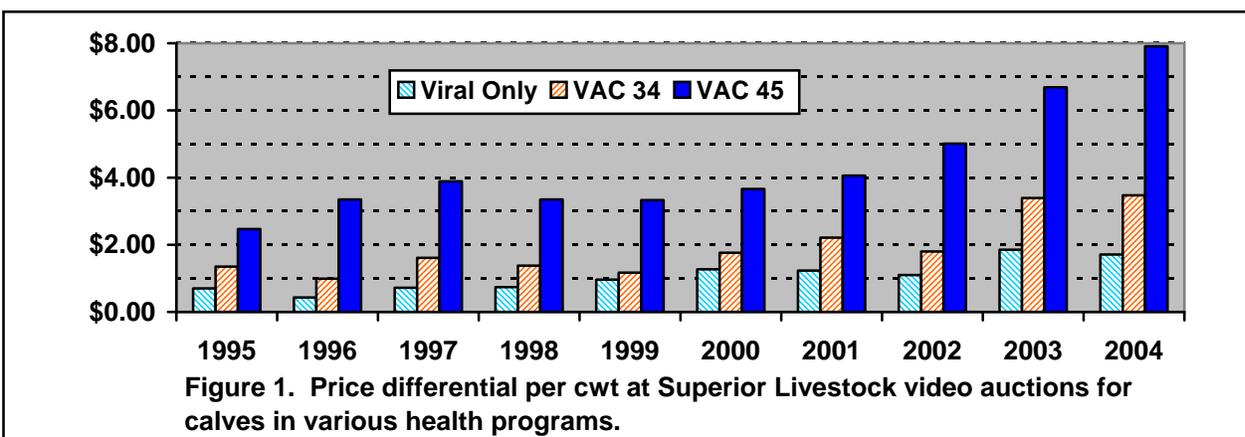
Area Extension Livestock Specialist
Oklahoma Panhandle Research & Extension Center

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Does Preconditioning Beef Calves Pay?

The concept of preconditioning calves has been around since the 1960's; yet, adoption of this practice has been very slow. Kansas State University researchers¹ reviewed data on preconditioning collected in recent years in an effort to determine the price difference between preconditioned and non-preconditioned calves and to estimate the returns cow-calf producers can expect from preconditioning calves 45 days compared with selling them at weaning. These researchers collected data from preconditioned calf sales held at the Holton Livestock Exchange (Holton, KS) from the fall of 1999 through the winter of 2004. This livestock exchange holds two "Special Calf Sales" per year (one in the fall and one in the winter).

Based on the data from this Kansas sale barn, preconditioned calves sold in the fall received a premium of approximately \$4.50 to \$5.50/cwt compared with non-preconditioned calves. Premiums were less for calves sold in the winter, for heavier calves and when cattle markets were strong. These premiums are similar to those observed at Superior Livestock Auction video sales from 1995 through 2004². During this 10 year period, the premium paid for VAC 45 calves averaged \$4.37 per cwt and ranged from a low of \$2.47/cwt in 1995 to a high of \$7.91/cwt in 2004 (see Figure 1). The premium averaged \$5/47/cwt over the most recent 5 years of this period (2000-2004). Price premiums observed in the Oklahoma Quality Beef Network³ averaged \$3.42/cwt from 2001 through 2003. The average premium increased each year from \$1.51, to \$3.95, and to \$5.89 per cwt over the three years.



In the Kansas data, based on a premium of \$4.50/cwt along with seasonal and body weight price adjustments and total costs of approximately \$60/head, a 45 day post-weaning preconditioning program increased returns to cow-calf producers about \$14/head compared with selling calves at weaning. These data illustrate that preconditioning program can be profitable for cow-calf procedures, but not from the premium price alone that buyers pay for preconditioned calves. Several factors contribute to enhanced returns from preconditioning including selling added weight, marketing into a seasonally upward trending market, marketing steers rather than bulls, marketing dehorned rather than horned or mixed lots, marketing in larger and more uniform lots, and marketing healthier calves⁴.

The Kansas researchers also reviewed previous studies examining how preconditioning calves affects feedlot profitability since this will ultimately determine whether price premiums are justified. They found that returns are increased by \$40 to \$60 per head with preconditioned calves in the feedlot, which equates to price premiums that could be paid for the calves of \$7.00 to 11.05/cwt. A 2004 survey of feedyard managers (19 managers responded) from the Texas Cattle Feeders Association reported that preconditioned calves were worth \$5.27/cwt more than non-preconditioned calves. This lesser value may reflect that feedlot managers recognize the risks that exist with preconditioned calves; thus, they are unwilling to pass the full added value to

the cow-calf owner. In addition, feedlots may have found that the improved returns actually observed with large numbers of preconditioned cattle over multiple years are less than that reported in the limited research data available. A number of factors improve returns on preconditioned cattle in feedyards including increased gains, reduced morbidity, reduced death loss, reduced medicine cost, and improved carcass quality⁵.

Restricting Hay Intake of Beef Cows

Reducing winter feed costs for beef cows is important to cow-calf producers since Standardized Performance Analysis records have shown that feed costs account for more than 60% of beef producers' annual cow cost with over one-half of these costs attributed to winter feeding. Wintering beef cows on large round hay bales fed ad libitum is a common practice in some areas of the U.S. However, this practice often waste hay and can result in over-consumption. Illinois researchers⁶ evaluated restricted feeding of hay to Simmental cows in three experiments. Hay used in the three trials was of average to high quality with crude protein contents ranging from 14.5 to 19.56% and TDN ranging from 56.9 to 63.8% (dry matter basis). In Experiment 1, cows with calves were allowed to access round bales for 24, 8, or 4 hours per day. Longer access time to hay increased hay consumption and manure production and tended to increase hay waste. Longer access to hay also reduced loss of body condition and cow weight, but did not affect milk production or calf weight. In Experiment 2, dry cows in the last third of gestation were allowed access to hay for 7, 5, or 3 hours per day and a fourth group was fed ground hay at 90% of requirements. Longer access to hay increased cow weight gain, hay consumption and manure production but did not affect hay waste. In Experiment 3, cows with calves were fed ground hay at 80, 90, or 100% of requirements. Level of hay feeding had no affect on cow or calf performance.

These researchers concluded that restricting hay intake can reduce hay waste, manure production, and manure nutrient output (nitrogen, phosphorus, and potassium). However, hay analysis should be performed prior to restricting intake to be sure quality is adequate to meet production objectives without sacrificing cow performance. Although reduced hay intake tended to decrease cow performance, acceptable levels of performance on the restricted treatments were achieved.

Effect of Hauling on Immune Status of Steers

Australian researchers⁷ used 605 lb yearling *Bos indicus* steers to study effects of transportation stress on the immune system. The steers were vaccinated for five types of clostridial organisms 8 weeks before hauling. Twelve hours before the initiation of transportation, feed and water was withdrawn from the steers. The steers were hauled over sealed roads for 72 hours with no rest stops for 3579 miles. Blood samples were collected from the steers 2 days before hauling, immediately after hauling, and 6 days after hauling. The steers had unlimited access to feed and water after the 72 hours in transport. Some immune systems indicators were significantly lower immediately after hauling but recovered after 6 days. Thus, the cattle may have been vulnerable to infection during the recovery period.

¹ Dhuyvetter, K.C., A.M. Bryant, and D.A. Blasi. 2005. Case Study: Preconditioning beef calves: Are expected premiums sufficient to justify the practice? *Prof. Anim. Sci.* 21:502-514..

² King, M.E. and J.T. Seeger. 2005. Ten-year trends at Superior Livestock Auction: Calves in value-added health programs consistently receive higher prices. *Pfizer Animal Health Tech. Bull.* SVC05002. Pfizer Animal Health, New York, NY. Available: http://www.selectvac.com/images/SV_2005_01.pdf

³ Ward, C.E., C.D. Ratcliff, and D.L. Lalman. 2004. Price premiums from the Oklahoma Quality Beef Network. *Oklahoma Coop. Ext. Serv. Bull.* F-599. Available: <http://pods.dasnr.okstate.edu/docushare/dsweb/Get/Document-1767/F-599web.pdf>

⁴ Avent, R.K., C.E. Ward, and D.L. Lalman. 2003. Economic value of preconditioning feeder calves. *Oklahoma Coop. Ext. Serv. Bull.* F-583. Available: <http://pods.dasnr.okstate.edu/docushare/dsweb/Get/Document-1969/F-583+web.pdf>

⁵ Lalman, D.L. and R. Smith. Effects of preconditioning on health, performance and prices of weaned calves. 2002. *Oklahoma Coop. Ext. Serv. Bull.* F-3529. Available: <http://pods.dasnr.okstate.edu/docushare/dsweb/Get/Document-2013/F-3529web.pdf>

⁶ Cunningham, T.C., D.B. Faulkner, A.J. Miller, and J.M. Dahlquist. 2005. Restricted intake of forages: An alternative feeding strategy for wintering beef cows. *Prof. Anim. Sci.* 21:182-189.

⁷ Stanger, K.J., N. Ketheesan, A.J. Parker, C.J. Coleman, S.M. Lazzaroni, and L.A. Fitzpatrick. 2005. The effect of transportation on the immune status of *Bos indicus* steers. *J. Anim. Sci.* 83:2632-2636.