



BEEF CATTLE RESEARCH UPDATE

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Effects of Age and Source Verification of Calves on Value Received at a Video Auction

Recent Montana State University research estimated premiums being paid for source and age verified calves sold via video auction.¹ These researchers evaluated data provided by Superior Livestock Video on 68,665 head of Montana calves marketed in two sales during June and July of 2007. The average sale weight of all calves in this dataset was 584 lb with an average sale price of \$1.17/lb. In this dataset, 31% of all calves sold were age and source verified, 60% of the calves were steers, 15% were weaned from their dams, and 88% were vaccinated prior to shipment (VAC 34 or VAC 45 protocols). The premium received for source and age verification for a 600 lb calf was \$12.79 (Table 1). Other premiums received for a 600 lb calf were: vaccinated - \$14.69/hd, weaned - \$17.69/hd, and steers \$52.52/hd more than heifers. These researchers concluded that when calves were age and source verified, weaned, and/or followed a vaccination protocol, additional dollars were received when marketed via a video auction.

Table 1. Additional value received for various characteristics of Montana Feeder calves sold via Superior Livestock Video Auction.

Variable	\$/100 lb	\$/600 lb
Steer vs. heifer	8.75	52.52
Weaned vs. not weaned	2.95	17.69
Source & age verified vs. not verified	2.13	12.79
Vaccinated vs. not vaccinated	2.45	14.69
July vs. June sale	2.77	16.60

Adapted from Kellom et al., 2008.

Feedlot Health and Performance Effects Associated with the Timing of BRD Treatment

Recent Kansas State University research used feedlot data collected on individually treated cattle (31,131 hd) to determine whether cattle performance and health outcomes in feedlot cattle were associated with the timing of treatment for bovine respiratory disease (BRD) during the feeding phase.² The data were acquired from a Midwestern feedlot on cattle slaughtered between Jan. 1, 2001 and Feb. 2, 2006. In their analysis of the data, the cattle were classified by initial arrival weight at the feedyard (400 to 500 lb = 4WT, 500 to 600 lb = 5WT, etc.). The data were analyzed using two models based on when the cattle were treated for BRD: 1) weeks on feed at initial BRD treatment and 2) weeks from BRD treatment to slaughter.

The distribution of initial BRD treatment based on weeks on feed from arrival to treatment is shown in Figure 1. These researchers reported that 74% of the BRD cases occurred in the first 42 days on feed and BRD cases peaked during week 2 post-arrival and then declined. Similar findings have been reported by other researchers. Data from two South African feedlots (2,036 calves) showed that the peak incidence of BRD occurred 18 days after arrival and 87% of first BRD treatments occurred within the first 35 days.³ A study of 2,146 feedlot cattle in 17 Iowa feedlot tests showed that 68 and 81% of first BRD treatments occurred within 42 days after arrival, respectively, for low morbidity (<20% morbidity) and high morbidity (>20% morbidity) tests.⁴ In this dataset, BRD incidence peaked within 14 days after arrival and then declined.

These Kansas researchers reported that net returns were lower for 5WT and 6WT cattle if treated during the first week of the feeding period as compared with subsequent weeks in the first month of the feeding period. In contrast, 7WT and 8WT cattle exhibited decreased net returns if treated during later weeks of the feeding period compared with earlier in the feeding period. These findings suggest that the timing of first BRD treatment affects the profitability of different weight classes differently. It was also reported that the number of times cattle were treated contributed to variation on net returns for the 5WT and 6WT cattle. For the 7WT and 8WT cattle, hot carcass weight was the main factor contributing to net returns when cattle were treated later in the feeding period.

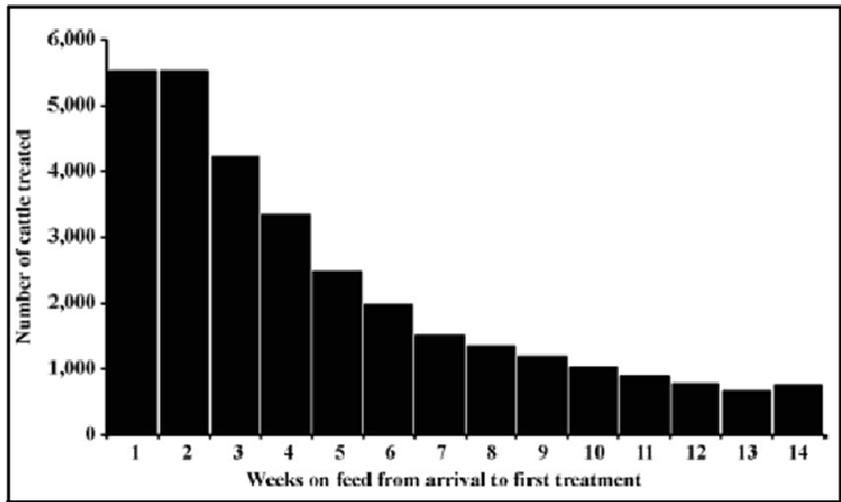


Figure 1. Frequency distribution of cattle by weeks that they were initially treated for respiratory disease during the first 100 d after arrival to the studied feedlot. Source: Babcock et al., 2009.

It was reported that in all weight classes (4WT thru 8WT) that estimated net returns decreased when cattle were slaughtered closer to their first BRD treatment date (Figure 2). Net returns were greater for cattle slaughtered further from the initial treatment. It was also noted that cattle with more weeks on feed between BRD treatment and slaughter had greater hot carcass weights, decreased daily gains, and more total treatments compared with cattle treated closer to slaughter. Cattle treated closer to slaughter presumably yielded lighter carcasses because of the decreased time between treatment and slaughter that cattle had to regain weight lost due to BRD.

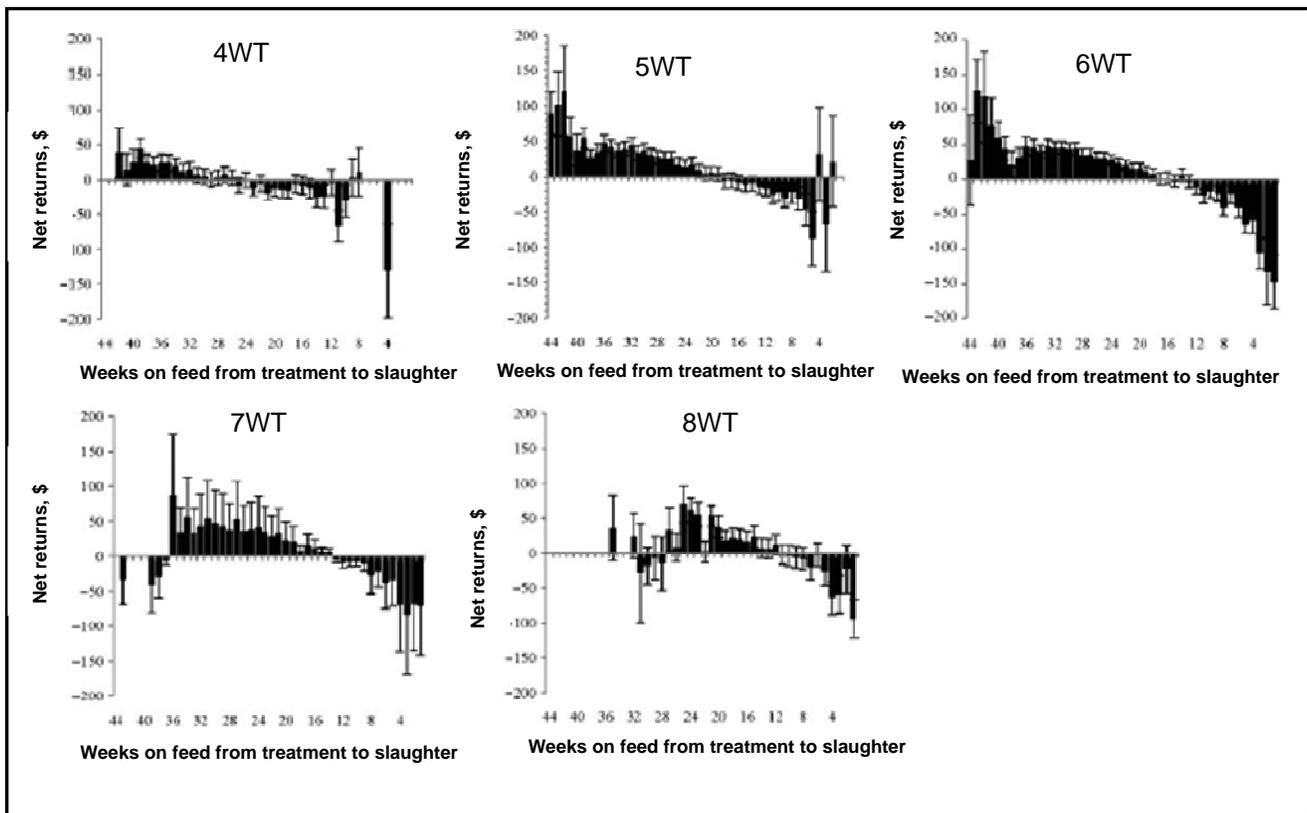


Figure 2. Least squares means of estimated net returns for all weight classes of cattle by weeks on feed from treatment to slaughter. Source: Babcock et al., 2009.

These researchers concluded that the timing of initial BRD treatment when measured relative to arrival and slaughter affects health and performance outcomes. Cattle treated further from slaughter had greater estimated net returns related to increased carcass weight that appeared to offset cost due to more treatments, longer days on feed, and decreased daily gains.

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- ¹ Kellom, A., J. Paterson, J. Vanek, M. Watts, and M. Harbac. 2008. The effects of age and source verification of calves on value received on superior livestock video auctions. *J. Anim. Sci.* 86 (E-Suppl. 3): 139 (Abstr.).
 - ² Babcock, A. H., B. J. White, S. S. Dritz, D. U. Thomson, and D. G. Renter. 2009. Feedlot health and performance effects associated with the timing of respiratory disease treatment. *J. Anim. Sci.* 87: 314-327.
 - ³ Thompson, P. N., A. Stone, and W. A. Schultheiss. 2006. Use of treatment records and lung lesion scoring to estimate the effect of respiratory disease on growth during early and late finishing periods in South African feedlot cattle. *J. Anim. Sci.* 84: 488-498.
 - ⁴ Faber, R., N. Hartwig, D. Busby, and R. BreDahl. 1999. The costs and predictive factors of bovine respiratory disease in standardized steer tests. Iowa State Univ., Beef Res. Rep. AS-641:28, A.S. Leaflet R1648.

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