The Financial Benefits of Marketing Feeder Cattle through the Use of Group Sales

Adam Hopkins*, Jason Roberts **, Joey E. Mehlhorn, and Scott Parrott****
***University of Tennessee at Knoxville and **University of Tennessee at Martin**

Selected Paper prepared for presentation at the Southern Agricultural Economics Association (SAEA) 2015 Annual Meeting, Atlanta, Georgia, January 31 – February 3, 2015

The Financial Benefits of Marketing Feeder Cattle through the Use of Group Sales

Abstract
The financial benefits of marketing feeder cattle through marketing alliances and group sales can impact profitability of cattle operations. The objective of this study was to assess the impact of group sales strategies and varying management practices on producer revenue and profit. Data was collected from monthly video sales from a regional livestock auction barn from 2008-2013. Results confirmed that there was a significant difference in the prices received through the video sale and the weekly cattle auction. The mean price per/cwt. at the video sale was $110.16 versus $105.08 over the study period. Preconditioning costs resulted in the greatest variability on producer profitability. As a result, preconditioning strategies must be considered in the overall marketing strategy.

Key Words: alternative marketing, video sales, marketing alliances

Introduction

The cattle market has a history of volatility that has led to the development of many marketing and risk management protocols by producers. Effective marketing strategies have long been a concern for agriculture producers and have been studied in great detail. The financial benefits of marketing feeder cattle through marketing alliances and group sales are a timely topic to both research and discuss. It was not until recently that the market's structure was conducive to value added practices. For some time producers have been adding value to animals, but it is now easier than ever to capture that value (Dolan, 2011). Alternative marketing can be defined as pursuing marketing strategies or positions other than those traditionally followed. Alternative marketing strategies include: direct marketing of products, group marketing, or simply taking advantage of value added practices. There are many avenues producers can use to market their cattle, and producers have been successful creating new marketing channels in past years. One channel that has become increasingly popular is the use of marketing groups and selling truckloads of cattle instead of simply offering cattle from only one producer. Typically these loads are made of preconditioned and vaccinated animals that are grouped according to certain characteristics. The grouping of the animals provides buyers with a uniform load lot that can then either be backgrounded or fed out for beef.

Producers from several counties in East Tennessee and Western North Carolina have participated in a program to provide a uniform lot load sale. While the value added through this practice is not consistent each year, or even sale-by-sale, long-term trends show that producers have indeed been able to capture value through the sale.

Value-added Practices

Value added practices in the cattle industry could include fairly simple management decisions including dehorning, castrating, and implanting animals. Some practices include a change in overall farm management, but the use of preconditioning programs, and vaccination protocols can be another method of adding value to a product. Many preconditioning protocols exist, but typically these programs include some combination of other value added practices (i.e. weaning, vaccinating, dehorning). Preconditioning programs exist to reduce the likelihood that animals experience health problems during and after being sold (Parish et al., 2010). One of the largest benefits to preconditioning cattle is the improved health or perceived improved health of the animals (Avent et al., 2004). More dedicated and management intensive value added practices also exist and include certified naturally grown, organic, and grass-fed beef. Certified naturally grown and organic are somewhat similar in the practices producers use in order to raise the animals, but the certification and inspections processes are much different. Typically, buyers are willing to pay more for animals that have had value-added management practices, the fact still remains that the animal is only worth as much as someone will pay for it.

Marketing Agreements

Various types of marketing agreements are made when selling cattle. These arrangements can be made as cash sales or executed at a later date. The primary types of cash sales include: auction barn sales (both live and video), the use of cattle brokers, and direct trade (negotiations directly between the buyer and seller). Contracts executed at a later date include a forward contract (an agreement to purchase the cattle two or more weeks in the future) or a long-term agreement between buyer and seller (Muth et al. 2008).

Muth et al. 2008 also noted that there are price differences among marketing channels. Prices received at the auction market are often higher, but are also associated with a greater risk of price fluctuation and risk to the seller. Prices received under forward contracts and long-term arrangements were lower than direct sales, but carry less risk. These alternative marketing agreements tend to be the best tradeoff between price and risk (Muth et al. 2008). The volatility in payback might play a role in producer’s willingness to participate in certain programs.

Selling Cattle in Groups

In the United States there are opportunities for cattle producers to participate in group cattle sales. Whether this is through a marketing alliance, an agreement among neighbors, or an organized group load lot sale, opportunities are available. The purpose of selling in load lots is fairly simple: to capture extra value. The loads are often organized ahead of time and lots will vary greatly. Group loads can also be divided by the size, sex, and weight of the animal. The purpose and value of the load is not always in the type of cattle present, but the consistency of the cattle in the lot. While lot weights vary, typically a load is described as a certain weight of animals to fill a transfer trailer, typically about 50,000 lbs. In the example of the video load sale in Newport, TN, cattle are separated according to only weight and sex with varying colors within any given load.

Value-added Sales

The use of video sales to market cattle is fairly common and has been studied. One study included a sale at the largest market in the United States, Superior Livestock Auction (Zimmerman et al. 2012). The cattle are sold through the video auction and are represented by a video of the cattle and a written description. No cattle are present at the time of the sale. The following week of the sale cattle are grouped and collected at the facility before being loaded for shipment to the purchaser. The value added programs at this auction barn that were most preferred were weaned calves with at least two rounds of respiratory vaccinations compared to the base non-vaccinated and non-weaned calves and resulted in premiums of $2 to $4 per cwt. for steers and $1 to $2 per cwt. for heifers (Zimmerman et al. 2012).

The research conducted by Zimmerman et al. not only addressed the issue of the use of video sales but also demonstrated the results and added premiums that can be gained through value-added practices. Cattle producers should look at weaning calves before marketing as a way to capture extra value (Zimmerman et al. 2012). In addition to weaning, producers should review their vaccination programs and consider starting a predetermined regiment designed specifically for a sale. These health programs were also shown to add value to the cattle being sold at Superior (Zimmerman et al. 2012) and have been observed at other markets as well (Williams et al. 2012). Not all value added sales are conducted over video. Sales exist that are video, live, private treaty, and even over the Internet. Producers are responsible for selecting the best route to market their animals and the best protocols to follow. The work at Superior shows that there is extra value created when following the proper value added management practices (Zimmerman et al. 2012).

Results of Value Added Practices

The addition of value added premiums has led to several certification programs throughout the United States. The certification is typically done by a third party and ensures the animals are receiving the proper treatment and practices. Oklahoma has a certification program that is supported by both the Oklahoma Cattle Producers and the Oklahoma Cooperative Extension Service (Williams et al. 2012). Third party certification is designed to ensure quality, and also to assure buyers that they are receiving the quality for the additional price paid. Williams et al. found that there is value to additional management practices for small lots of cattle, and also analyzed the value of the certification program. Producers marketing lightweight cattle received the greatest value from the certification. Animals in the 350 lb. category provided the largest benefit of the certification (+$2.81), while larger animals in the 750 lbs. category had a negative premium (-$0.09) (Williams et al. 2012).

Need for Education

Today's agricultural environment is one that becomes more competitive and unpredictable as time goes on (Riley, 2013). For this reason, the education of producers has become paramount to the success of many operations. As traditional as agriculture is, the fact remains that producers must be willing to accept new norms and remain flexible in their strategies. This change not only affects producers, but also agricultural extension educators and economists. The current market and market volatility demands managers become better aware of the challenges and risks in agriculture. Producers should become more adept at managing their business risk, seizing opportunities when presented (Riley 2013).

The use of alternative marketing strategies and value added practices have become more prevalent. The list of value added practices is fairly extensive, but includes fairly simple management practices that increase an animal's value. Studies have shown that pre-conditioned calves are healthier, with a stronger immune system, and so are more valuable to feeder cattle buyers than are non-preconditioned calves (Avent et al., 2004). The value added to these animals is not always realized with a typical weekly market and cannot always be seen by the phenotypic appearance of the animal. The inability for a buyer to visually see all value-added practices performed on an animal lends supports the use of certification programs, to reassure buyers of the cattle's quality. The use of a certification can be beneficial to producers selling smaller weight calves (Williams et al. 2012).

Objectives

Value added practices have been developed to create extra value in agricultural commodities and products to increase the overall revenue and profit that a producer might receive for a product. These practices are used throughout agriculture in both animal and plant products by producers that are willing to put effort into building value as compared to simply selling a conventional product at conventional prices. This project focused on the findings from value added cattle sales (video sales versus traditional auction sales) in East Tennessee and highlight some local sales data to determine if producers received benefits in these practices. Specific objectives include:

1. Determine if there has been a statistical difference between prices received at weekly cattle auctions and the Hawkins County Cattlemen's Association (HCCA) video sale.

2. Determine average costs of preconditioning cattle for a 45 day minimum (requirement for HCCA sale)

3. Compare average costs of producers that manage their operation and have outflows:
    a. Less than average producers
    b. The same as average producers

c. More than average producers

4. Compare average preconditioning costs to additional value gained at the HCCA sale.

Data and Methods

Data was collected from the monthly video sale at Wilson Livestock in Newport, TN during 2008-2013. The Wilson Livestock video sale is hosted by the Hawkins County Cattlemen's Association and includes producers from all over East Tennessee and in Western North Carolina. The cattle were co-mingled at Wilson livestock before being shipped to their respective buyer. The data collected included the weight, lot, and price of the animals. While each animal is not weighed individually, a slide is used in order to bring all animals to the base weight. The average sale price of the cattle was compared to the prices received at the weekly markets. The weekly sale data was collected from the Tennessee Department of Agriculture and includes the overall weekly average prices. The group data was then matched up with the respective week, weight, and sex of the lot loads created in the video sale for comparison. The data sets were then used in a paired T-test to determine the significance between the value-added video sale and the weekly auction.

To address the question of the value of preconditioning programs the price differences between the value-added and weekly auction were compared to estimated preconditioning costs. A proxy for preconditioning costs was developed using an Extension Bulletin from Oklahoma State University, Publication AGEC-247 (Donnell et al., 2007). The costs quoted in the publication were developed in 2004-2005 and included cattle interest costs. In order to make the costs more relevant to East Tennessee producers in 2014, the figure for cattle interest was removed and the costs were adjusted to current values using CPI index adjusted for 2014. The inflated costs were averaged to create a cost figure for comparison. Producer interviews were also conducted in order to confirm the accuracy of the figures as compared to producer costs in East Tennessee. Producer interviews confirmed the inflated costs were accurate for production in 2014. Two additional figures were developed to account for variations in the management styles of cattle producers. The two additional groups, intensive management operation and limited management operation, were created by increasing 15% of preconditioning costs and subtracting 15% of preconditioning costs, respectively. Finally, costs were compared to the total added value realized in the 2013-2014 HCCA sale in order to determine if producers were indeed finding additional value over additional costs of preconditioning.

Results and Discussion

Results from a paired T- Test confirmed that there was indeed a significant difference in the prices received through the video sale and the weekly cattle auction at the .01 level. The mean price per/cwt. at the Hawkins County Cattlemen's video sale was $110.16. This was $5.08 higher than the prices seen at the weekly auction ($105.08).

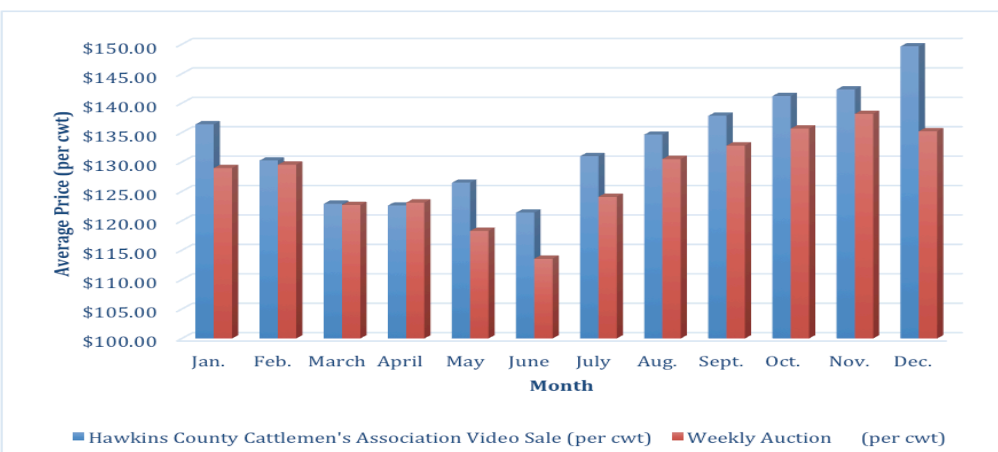
Table 1. Paired t-Test for HCCA prices and weekly auction

T-Test: Paired Two Sample for Means

	HCCA	CA
Mean	110.1585846	105.0785
Variance	394.7782439	361.8296
Observations	71	71
Pearson Correlation	0.986400934	
Hypothesized Mean Difference	0	
df	70	
t Stat	12.90814316	
P(T<=t) one-tail	1.72621E-20	
t Critical one-tail	1.666914479	
P(T<=t) two-tail	3.45242E-20	
t Critical two-tail	1.994437112	

When evaluating the results, an analysis and comparison was done for multiple years due to the fact that 2013 results indicated a loss of total profit even though higher prices were received for the cattle in the video sale when compared to weekly prices. The additional revenue ranged from -$3.48 to $100.98 and on average, producers received an extra $37.40 for a 700lb animal in 2013 at the Hawkins County Cattlemen's Video Sale.

Figure .1 Average prices received at HCCA sale and Weekly auction during 2013



The average cost of preconditioning was set at $67.81 for a 45-day preconditioning program. This cost includes labor, vaccinations, feed, etc. For producers that choose to manage their operation more intensively an extra 15% was added to this average making the intensive management costs $77.97 for the same 45-day program. Those individuals that limited their management and inputs were represented by a cost that was 15% below the average, $57.64. The return of preconditioning cattle was calculated by subtracting the cost of preconditioning from the additional value gained from the video sale. All months in 2013 showed a negative return for all management types (average, intensive, and minimal) except for the month of December, which showed additional value of $33.17, $23.00, and $43.43 respectively. The negative return on the investment of preconditioning cattle was greatest for those individuals managing their cattle more intensively, as to be expected, and ranged from -$81.46 to -$20.17 in the months of January through November. The average additional value per 700lb calf was -$40.58 for the intensive managers during 2013. The average management costs resulted in an average return of -$30.41 per 700lb calf, while those utilizing limited management, experienced an average return of -$20.24.

	Hawkins County Cattlemen's Association Video Sale (per cwt.)	Weekly Auction (per cwt.)	Difference (per cwt.)	Value For 700lb calf	Intensive Cost Return (Average +15%)	Average Cost Return ($67.81)	Limited Cost Return (Average - 15%)
Jan.	$136.41	$128.97	$7.44	$52.08	-$25.90	-$15.73	-$5.56
Feb.	$130.25	$129.54	$0.71	$4.99	-$72.99	-$62.82	-$52.65
March	$122.89	$122.68	$0.21	$1.48	-$76.50	-$66.33	-$56.16
April	$122.60	$123.09	-$0.50	-$3.48	-$81.46	-$71.29	-$61.12
May	$126.48	$118.30	$8.18	$57.28	-$20.70	-$10.53	-$0.36
June	$121.39	$113.56	$7.83	$54.81	-$23.17	-$13.00	-$2.83
July	$130.99	$124.07	$6.92	$48.41	-$29.57	-$19.40	-$9.23
Aug.	$134.65	$130.51	$4.14	$29.00	-$48.98	-$38.81	-$28.64
Sept.	$137.85	$132.80	$5.06	$35.40	-$42.58	-$32.41	-$22.24
Oct.	$141.21	$135.68	$5.53	$38.73	-$39.25	-$29.08	-$18.91
Nov.	$142.33	$138.18	$4.15	$29.06	-$48.92	-$38.75	-$28.58
Dec.	$149.65	$135.23	$14.43	$100.98	$23.00	$33.17	$43.34

Table 2. Cost return for preconditioning, 2013

	Hawkins County Cattlemen's Association Video Sale (per cwt.)	Weekly Price (per cwt.)	Difference (per cwt.)	Value For 700lb calf	Intensive Cost Return (Average +15%)	Average Cost Return ($67.81)	Limited Cost Return (Average -15%)
Jan.	$135.14	$123.13	$12.01	$84.05	$6.07	$16.24	$26.41
Feb.	$140.70	$129.86	$10.84	$75.89	-$2.09	$8.08	$18.25
March	$145.55	$139.63	$5.92	$41.45	-$36.53	-$26.36	-$16.19
April	$135.70	$133.55	$2.16	$15.10	-$62.88	-$52.71	-$42.54
May	$127.64	$129.12	-$1.48	-$10.34	-$88.32	-$78.15	-$67.98
June	$142.17	$125.98	$16.19	$113.33	$35.35	$45.52	$55.69
July	$131.65	$123.82	$7.83	$54.81	-$23.17	-$13.00	-$2.83
Aug.	$118.85	$111.58	$7.27	$50.89	-$27.09	-$16.92	-$6.75
Sept.	$129.71	$122.62	$7.10	$49.68	-$28.30	-$18.13	-$7.96
Oct.	$128.91	$120.39	$8.52	$59.64	-$18.34	-$8.17	$2.00
Nov.	$129.14	$120.63	$8.51	$59.58	-$18.40	-$8.23	$1.94
Dec.	$130.54	$121.70	$8.84	$61.86	-$16.12	-$5.95	$4.22

Cattle prices have been increasing for the last six years for both preconditioned cattle and those sold at the weekly auction.   Data from 2008-2013 showed that producers received higher prices for cattle that were sold in the HCCA video sale. In rare instances the price was close to, or below weekly cattle market levels, but this was infrequent. On average a producer saw additional revenue of $35.43 per 700lb calf throughout the entire time period. The highest average additional value was seen in 2012 at $54.66 per 700lb calf. In contrast the lowest average premiums were experienced in 2009 at $28.22 per 700lb calf.

Figure 2: Cattle prices 2008-2013 at HCCA video and weekly auctions

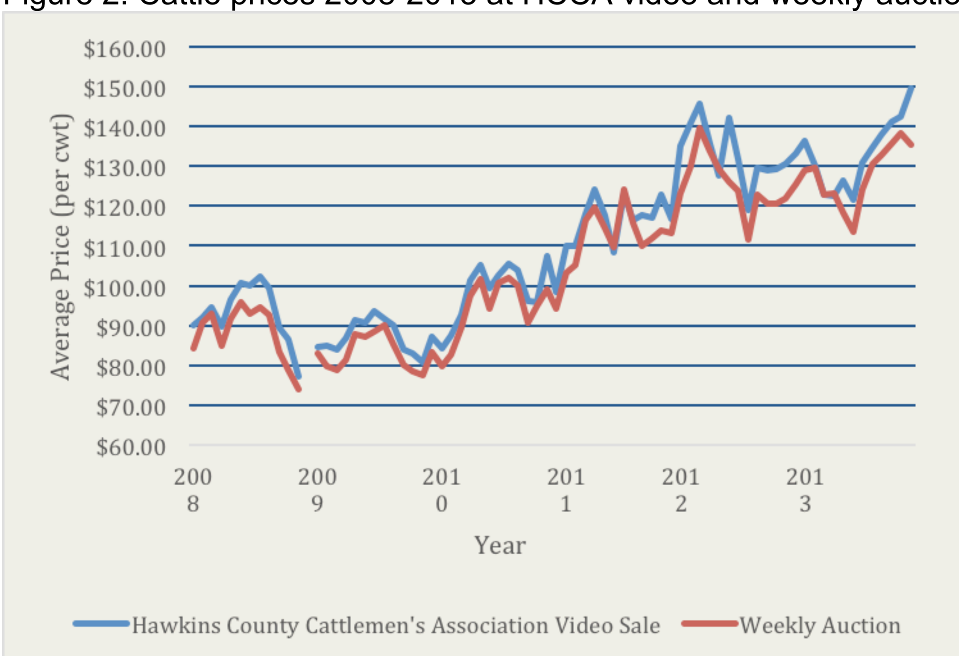
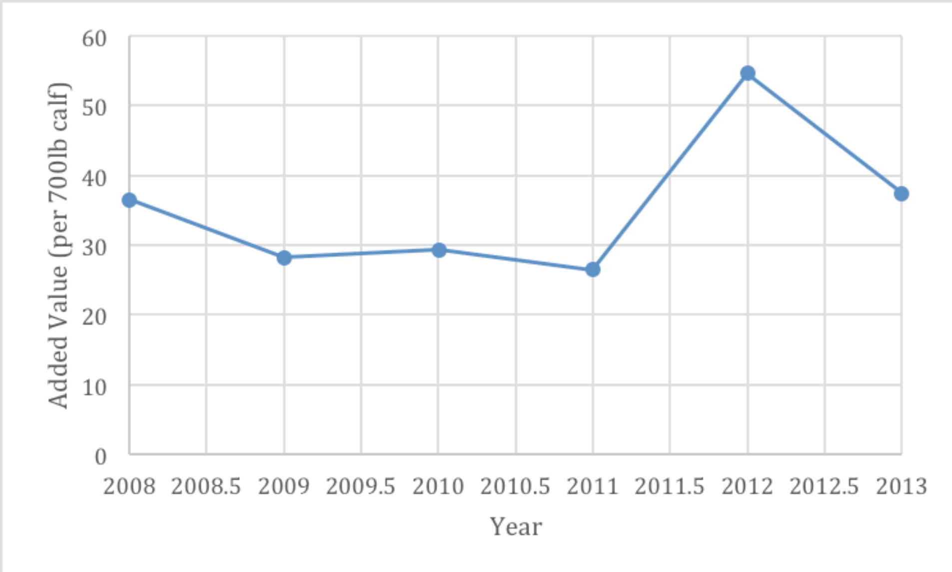


Figure 3: Added value of preconditioned cattle at HCCA



Conclusions and Discussion

Regardless of what practices have been completed, it is essential for sellers to pursue the correct marketing channels to reap the greatest benefits. Cattle producers can realize greater returns by selling livestock in group lots or in specialty sales. Value-added practices can increase profits in any operation, but the results are somewhat variable depending on management strategy and producer cost of production. Cattle producers that choose to seek greater value for their animals must be willing to pursue opportunities that allow them to properly market their cattle and fully take advantage of the added value. The data collected over the past several years of HCCA Video Sales provided great insight into the importance of farm and financial management. A producer who is cognizant of his/her inputs can easily turn a situation that may lose additional value to one that increases overall profits. The importance of financial management goes beyond keeping records of costs, and must be used as a tool by producers in order to truly take advantage of any opportunities, which may exist, within their market. In the end, the question for producers might not be is preconditioning worth the money, but does preconditioning create better cattle and improve the cattle industry by providing a better product?

Literature Cited

Avent, K.R. , C. E. Ward, and D.L. Lalman. 2004. "Market Valuation of Preconditions Feeder Calves." *Journal of Agricultural and Applied Economics* 36(1): 173-183.

Dolan, T.G. 2011. "Alternative Marketing Strategies for Cattle Producers." The Cattleman 98(5):82-84,86,88.

Donnell, J., C. Ward, S. Swigert. 2007. "Costs and Benefits Associated with Preconditioning Calves." Oklahoma Cooperative Extension Service AGEC -247.

Muth, M.K., Y. Liu, S.R. Koontz, and J.D. Lawrence. 2008. "Differences in Prices and Price Risk Across Alternative Marketing Arrangements Used in the Fed Cattle Industry." *Journal of Agricultural and Resource Economics* 33(1):118-135.

Parish, J. A., J.D. Rhinehart, and H.T. Boland. 2010. "Beef Cattle Preconditioning Programs." Mississippi State University Extension Publication No.2578

Riley, J. M. 2013. "Extension's Role in Commodity Marketing Education: Past, Present, and Future." *Journal of Agricultural and Applied Economics* 45(3): 537-555.

Williams, G. S., K.C. Raper, E.A. DeVuyst,, D. Peel, and D. McKinney. 2012. "Determinants of Price Differentials in Oklahoma Value-Added Feeder Cattle Auctions." *Journal of Agricultural and Resource Economics* 37(1): 114-127.

Zimmerman, L. C; T.C. Schroeder, K.C. Dhuyvetter, K.C. Olson, G.L. Stokka, J.T. Seeger, and D.M. Grotelueschen. 2012. "The Effect of Value-Added Management on Calf Prices at Superior Livestock Auction Video Markets." *Journal of Agricultural and Resource Economics* 37(1): 128-143.