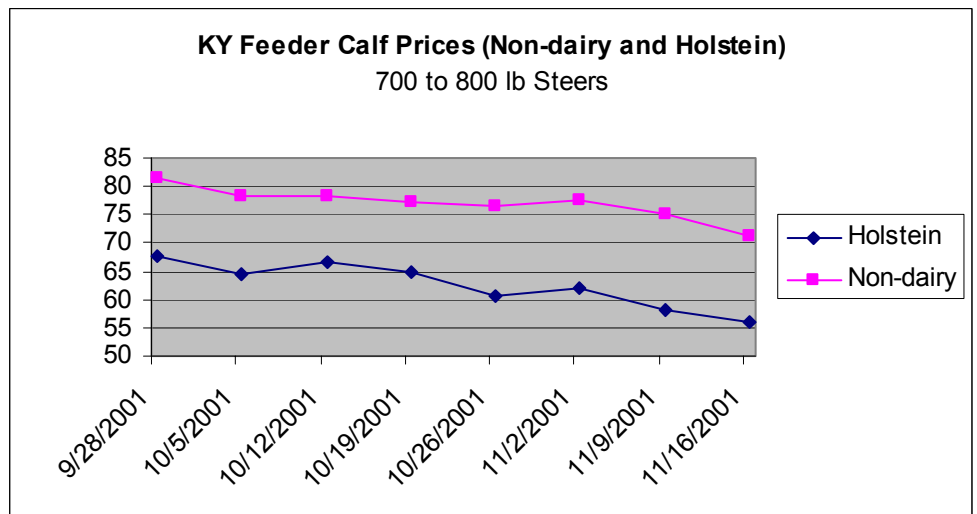


The Smithfield / Packerland Merger and the Holstein Feeder Steer Price Differential ¹

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On October 25, 2001, Smithfield Foods completed its acquisition of Packerland Holdings. With this merger, Smithfield became the fourth largest beef packing company in the US and gained control over nine percent of the market. Packerland was a major purchaser of Holstein slaughter animals, and due to their Green Bay, WI and Plainwell, MI locations, slaughtered many Holstein steers that originated in Kentucky. Many industry leaders were concerned that this merger would have a negative effect on Holstein feeder steer prices.

There was an immediate drop in Holstein feeder prices following October 25, 2001, which only added to this speculation. For the week of October 19, 2001, 700 to 800 pound Holstein steers in Lexington, KY were selling for \$64.75 per cwt. The following week of October 26, 2001, prices dropped to \$60.60 per cwt, a decrease of more than \$4.00. Furthermore, in the four weeks prior to the merger, 700 to 800 pound Holstein steers averaged \$65.85 / cwt. In the four weeks following the merger, these steers averaged \$59.12 / cwt, a decline of nearly seven dollars per hundredweight (KY Livestock Database, see graph).



This question was difficult to address due to the tragedy of September 11, which occurred so close to the merger. Prices of all cattle dropped considerably following this date, as shown in the preceding chart. Therefore, it was decided to examine the effects of the merger on the difference between

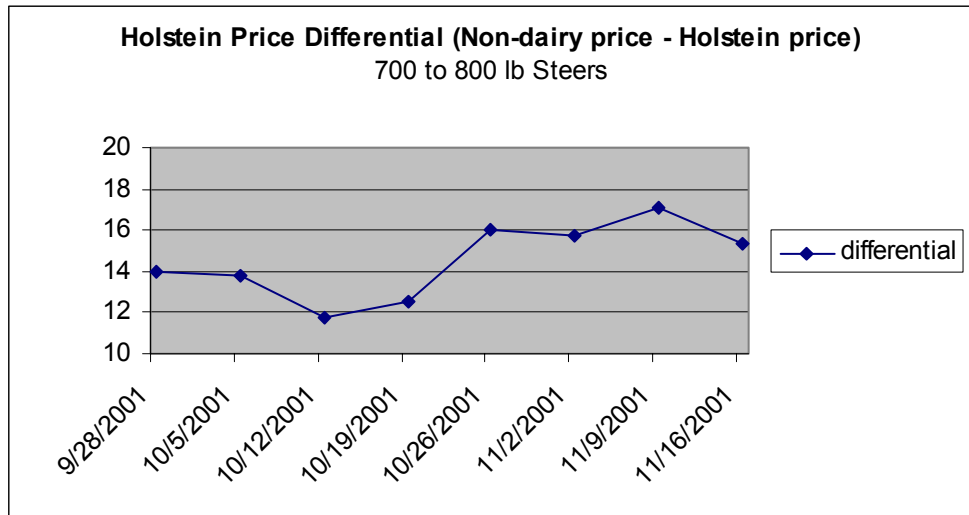
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This article presents information on the economic situation and outlook for Kentucky agriculture and is intended to assist farmers, agribusiness professionals, Extension field staff, and others with interest in agriculture and agribusiness. Information presented here is based on the most recent information and research available. However, the rapidly changing economic and policy conditions for agriculture limit the usefulness and life span of conclusions and recommendations cited here. Decision makers should keep these facts in mind. Feel free to use the information included in this publication for other uses, but please provide professional citation about the source. This paper is published without formal review and the views expressed are those of the authors and do not necessarily reflect the views of the University of Kentucky, the Agricultural Experiment Station, or the Cooperative Extension Service.

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Holstein feeder steers and non-dairy feeder steers rather than evaluating the impact on the Holstein price itself. This is done in an attempt to minimize the effect of variables that would have affected the prices of all types of cattle.

Simple graphical analysis did suggest that the Holstein price spread widened following October 25th (see graph). From October 19th to October 26, the Holstein price differential increased from \$12.49 to \$15.98 per cwt. In the four weeks prior to the merger, the differential averaged \$12.99. During the four-week period following the merger, the spread had risen to \$16.03 per cwt. on average, an increase of more than \$3.00 per hundredweight.



Despite this evidence, statistical analysis was required to be certain that other factors did not cause this widening. This analysis was conducted using an econometric model, which allowed us to hold all other factors constant and isolate the effect of the merger alone. The model used to explain the Holstein feeder steer price differential included the following variables: the Feeder Cattle Index for that week as reported by the Chicago Mercantile Exchange, the most recently reported weekly wholesale ground beef price, the most recently reported weekly Chicago corn price, the most recent weekly close of the slaughter cattle futures contract six months in advance, and the most recent weekly value for the Choice / Select price spread. Additional variables were used to evaluate the economic implications the September 11th terrorist attack, the Smithfield / Packerland merger, and normal seasonal patterns.

The CME Feeder Cattle Index is included to determine if the spread between Holstein and non-dairy feeder steers tends to widen as the overall feeder calf market improves. It was assumed that the Holstein market is largely driven by the same factors that drive the cull cow market, so the wholesale price of ground beef is included. Corn price always comes into play when evaluating feeder calf prices and the profitability of finishing cattle. Since Holsteins tend to finish at higher slaughter weights, more corn is needed to finish them relative to non-dairy feeders. For this reason, higher corn prices were expected to increase the price differential.

The slaughter cattle futures price is included because it is the best estimate available for expected finished cattle prices in the future. The contract six months ahead is used to estimate the futures price when the steers would be finished and reach the fat market, assuming a feeding period of roughly 180 days. This also accounts for the hedging opportunity that existed at the time the cattle were placed on feed.

The Choice / Select price spread is included as a measure of premium paid for quality. Although it does not directly relate to the Holstein spread, it does reveal how the market is discounting cattle that do not grade Choice. Since Holsteins are less likely to reach Choice grade than traditional beef steers, it was hypothesized that there might be some link between this spread and the Holstein feeder steer price spread.

Our main focus, was to examine the effect that the Smithfield / Packerland merger may have had on this price differential. The variable used to account for the time period following September 11, 2001 and prior to October 25, 2001 did not appear to affect the spread at all. However, the time period

following the October 25th was associated with a widening of the spread by more than \$3.50 per hundredweight, holding everything else constant. This suggests that it was an event in late October, rather than mid-September, that caused a widening of this spread. Therefore, we were unable to eliminate the possibility that widening of the Holstein feeder steer price differential was caused by the merger of Smithfield and Packerland.

Further interpretation of the results yielded some additional insights into the Holstein feeder steer market. The Holstein price spread did not appear to be dependant on the CME Feeder Calf Index, the six month futures price, or the Choice / Select price spread. However, the price of ground beef and the price of corn did appear to be significant. The Holstein spread tended to widen as corn price increased and the differential seemed to tighten as the price of ground beef increased. Seasonal variables were also helpful as we learned that this differential tended to be over \$2 per hundredweight wider in the winter months (December through February).

These findings hold serious implications for backgrounders of Holstein steers. It is common knowledge that increasing corn prices put negative price pressure on feeder cattle. Holstein backgrounders should be aware that Holstein feeder steers prices are going to suffer more than non-dairy feeder steers when corn prices rise. Secondly, it is also well known that all feeder calf prices slip in the fall. However, Holstein feeder steer prices do not appear to rally in the winter like non-dairy feeder prices do; it appears that they remain down until spring. Being aware of subtle trends such as these could make a huge difference in a margin business such as backgrounding.

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