

## Trends in “Natural” Value-Added Calf Programs at Superior Livestock Video Auction

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### Abstract

The objective of this study was to determine changes in enrollment of calf lots in natural programs at Superior Livestock Video Auction over the last 9 years. The trend for all natural programs was up; however, the trend for non-hormone treated cattle was markedly up. This is likely due to the fact that non-hormone treated cattle lots were higher ( $P < 0.05$ ) in price for 7 of the 9 years.

### Introduction

The word “natural” has been used in beef marketing for many years. While the word “natural” is defined by the entities that use it in beef marketing, it most commonly means no growth-promoting implants and no antibiotics.

Superior Livestock Video Auction is a large video auction company that sells calves, feeder cattle, and breeding cattle. Consignors of calves and feeder cattle to Superior Livestock can choose from four “natural” programs that are used when raising cattle. These are:

1. Certified Natural: no hormones, antibiotics, or animal by-products.
2. Certified Natural Plus: no growth-promoting hormones/steroids, antibiotics, ionophores, beta adrenoreceptors, or animal by-products. Seller will sign additional Natural Affidavit.
3. Verified Natural Beef: process verified natural by third-party auditors, free of antibiotics, growth promotants, or any type of animal by-product.
4. Non-hormone treated cattle: U.S. Department of Agriculture approved; created in 1999 when the European Union and the U.S. agreed to control measures to facilitate the trade of non-hormone treated beef, including veal.

The objective of this study was to determine trend lines for enrollment of calf lots in natural programs.

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## Experimental Procedures

Information describing the number of cattle in each program and the price of lots sold through a livestock video auction service (Superior Livestock Auction, Fort Worth, TX) was obtained from the auction service in an electronic format. These data were collected for lots of beef calves offered for sale during summer sales from 2010 through 2018.

Consignors of calves to Superior Livestock Video Auction can choose from four different natural programs, or they may choose to not enroll calves in a natural program. Consignors may enroll calves in more than one natural program. The unit of study in these analyses was a lot of beef calves. For each year of data obtained for this study, a separate multiple regression model was developed using a backwards selection procedure (Kleinbaum et al., 1988) to quantify the effects of independent factors on the sale price of beef calves. The MIXED procedure of SAS (Version 9.3, SAS Institute Inc., Cary, NC) was used for the analyses. The variable of interest in this study was the program for non-hormone treated cattle.

## Results and Discussion

The total number of lots in the analysis was 36,856, representing 4,419,921 calves. The trend line for natural programs is shown in Figure 1. There was an increase in the percentage of lots enrolled in one or more natural programs. Over the 9-year period, the percentage increased from 35.3 to 42.0%.

The percentage of non-hormone treated cattle lots grew from 5.2 to 23.8% over the 9-year period (Figure 2). This growth was likely fueled by the higher prices that buyers were willing to pay (Table 1). The multiple regression analysis showed significant price advantages for non-hormone treated cattle lots in 7 of the 9 years. The magnitude of this price advantage ranged from \$1.02/cwt in 2013 to \$4.04/cwt in 2014. The added-value price signal appears to have been received by consignors, thus the increase in enrolled lots.

## Implications

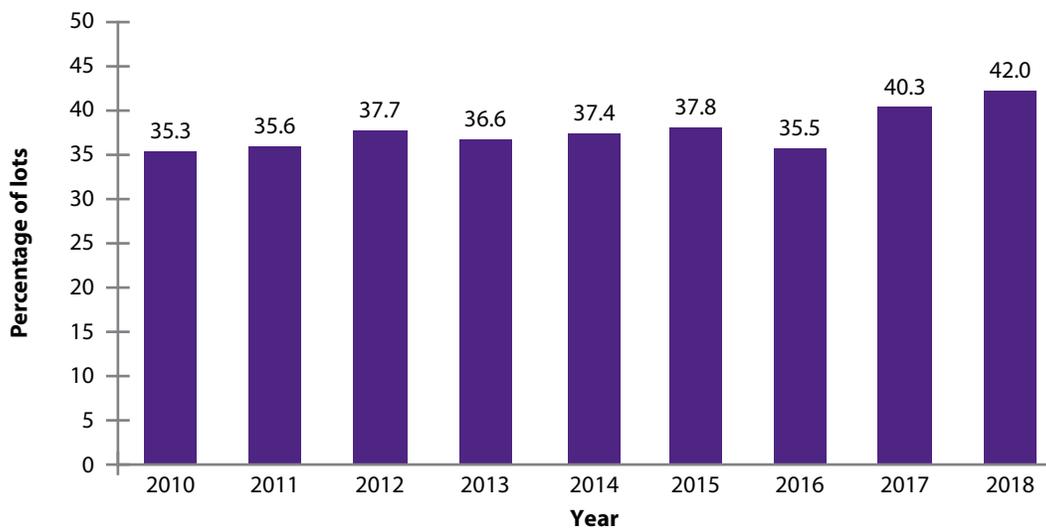
While there are significant price advantages for 7 of the 9 years in the analysis, the price advantages may not be sufficient to offset not using a growth-promoting implant in the calves.

**Table 1. Regression coefficients for the non-hormone treated cattle program for beef calves sold through Superior Livestock Auction’s summer sales: 2010 through 2018**

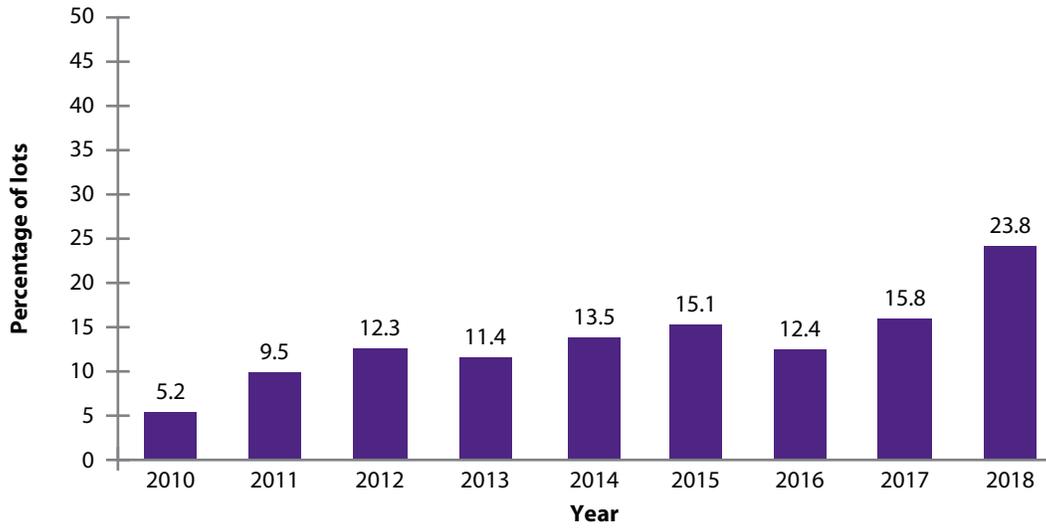
Year	Regression coefficient <sup>a</sup>
2010	\$2.38 <sup>b</sup>
2011	\$2.28 <sup>b</sup>
2012	\$1.03 <sup>b</sup>
2013	\$1.02 <sup>b</sup>
2014	\$4.04 <sup>b</sup>
2015	$P = 0.51$
2016	$P = 0.71$
2017	\$2.40 <sup>b</sup>
2018	\$2.30 <sup>b</sup>

<sup>a</sup>Regression coefficients represent price advantages for non-hormone treated cattle program calves compared with calves not in the non-hormone treated cattle program, controlling for all other significant sources of variation.

<sup>b</sup>Regression coefficients with a superscript are higher ( $P < 0.05$ ) than for calves not in the non-hormone treated cattle group.



**Figure 1. Percentage of lots of single-gender beef calves offered for sale in 67 summer video auctions from 2010 through 2018 that were in one or more natural programs.**



**Figure 2. Percentage of lots of single-gender beef calves offered for sale in 67 summer video auctions from 2010 through 2018 that qualified for the non-hormone treated cattle program.**