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Annual and Seasonal Price Patterns for Cattle

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AGRICULTURAL ECONOMICS
Institute of Agriculture and Natural Resources

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Cornhusker Economics

Annual and Seasonal Price Patterns for Cattle

Market Report	Year Ago	4 Wks Ago	8/14/15
Livestock and Products, Weekly Average			
Nebraska Slaughter Steers, 35-65% Choice, Live Weight.	154.63	151.08	150.71
Nebraska Feeder Steers, Med. & Large Frame, 550-600 lb.	262.05	280.09	254.63
Nebraska Feeder Steers, Med. & Large Frame 750-800 lb.	231.82	233.11	227.57
Choice Boxed Beef, 600-750 lb. Carcass.	257.35	242.21	242.66
Western Corn Belt Base Hog Price Carcass, Negotiated.	104.71	78.04	77.23
Pork Carcass Cutout, 185 lb. Carcass 51-52% Lean.	115.35	80.09	89.33
Slaughter Lambs, wooled and shorn, 135-165 lb. National.	154.50	159.41	156.89
National Carcass Lamb Cutout FOB.	360.55	361.12	357.59
Crops, Daily Spot Prices			
Wheat, No. 1, H.W. Imperial, bu.	5.47	5.15	4.33
Corn, No. 2, Yellow Nebraska City, bu.	3.49	4.11	3.46
Soybeans, No. 1, Yellow Nebraska City, bu.	11.97	10.08	9.43
Grain Sorghum, No.2, Yellow Dorchester, cwt.	6.09	8.14	6.02
Oats, No. 2, Heavy Minneapolis, Mn, bu.	3.74	2.91	2.63
Feed			
Alfalfa, Large Square Bales, Good to Premium, RFV 160-185 Northeast Nebraska, ton.	192.50	100.00	178.00
Alfalfa, Large Rounds, Good Platte Valley, ton.	100.00	85.00	85.00
Grass Hay, Large Rounds, Good Nebraska, ton.	87.50	95.00	95.00
Dried Distillers Grains, 10% Moisture Nebraska Average.	95.75	127.75	140.00
Wet Distillers Grains, 65-70% Moisture Nebraska Average.	37.63	42.50	43.00

* No Market

Annual average prices over the last 35 years for feeder steers (500-600 lb and 700-800 lb) and fed steers for Nebraska are shown in Figure 1. The U.S. cattle history has well documented 10 to 12 year cycles of rising and falling production with inverse price cycles. Historical prices within the cattle industry cycles for Nebraska can be seen from the figure with similar low prices during the bottom of the cycles in 1986 and 1996. In 1996, higher than average feed grain prices resulted in the narrowing of the spread between lighter weight and heavier weight steers. Cattle prices have been hitting record highs for several years as beef cow numbers have been on the decline since 2006.

In 2011, drought caused further liquidation of the herd in the U.S., beginning in the southern plains. As liquidation continued, prices soared through 2014. In 2014 the average price for 500 -600 pound feeder steers was $261.16 per cwt. The average annual price in 2014 for 700–800 pound steers was $215.35 per cwt. and for fed steers it was $155.04 per cwt. The cattle industry has been on the increasing portion of the price cycle as the industry has been declining in numbers. As the industry begins to rebuild numbers over the next couple of years, a peak within the price cycle may be reached.

As we look to a particular year, seasonal price patterns can be important. Seasonal price patterns are average cattle price patterns that occur within a year. Understanding seasonal price

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patterns can assist cattle producers with their marketing and production management decisions. These prices vary through the course of a calendar year due to seasonal supply and demand factors. The supply of feeder cattle is typically larger during the fall due to the calving seasons and biological factors. Cattle slaughter numbers also fluctuate during the year causing changes in the price pattern. Consumer demand for beef as well as the available supply of pork and poultry products also affect the seasonal price patterns of cattle. These seasonal price patterns can change over time due to changes in factors that affect production or demand patterns such as changes in the industry structure or consumer preferences.

Prices in 2014 did not follow a typical seasonal price pattern and prices continued to increase through the second half of the year. For the first half of 2015 prices have been higher than at the same time in 2014 but are expected to see more of a seasonal pattern as we enter the second half of the year and are likely to be below year ago levels.

For this publication, seasonal price indexes were calculated over a 10-year period (2005-2014) for Nebraska feeder steers (500 to 600 pounds and 700 to 800 pounds) and Nebraska direct fed steers (1100–1300 pounds). The data used was collected from USDA's Agricultural Marketing Service. This article presents two types of information: 1) monthly seasonal price index and 2) price variability range within a month. The seasonal price index represents the monthly average price level relative to the average price for the year. An index number less than 100 implies that prices are typically lower in that month, than the average annual price. The price variability range within a month indicates how confident one can be in the price index for a particular month. Certain times of the year may be more price volatile than others, and the difference between the maximum and minimum index for that month over the ten years will become wider. This variability is based on the standard deviation of prices within that month. The average index plus or minus one standard deviation represents the range where the index for that month could be expected to fall 68% of the time. To be 95% confident the range would be equal to the average index plus or minus two standard deviations.

Figures 2 through 4 represent the average monthly indexes for Nebraska 500-600 pound feeder steers, 700-800 pound feeder steers and fed steers (1100 to 1300 pounds). The variability range is indicated by the lines above or below the index values. Table 1 represents the actual monthly index numbers and the variability (standard deviation) factors.

For example, in Figure 2 for January the monthly price index value is 97. This means that the average January price is 97 percent of the annual average price. The variability factor of 7.8 means that approximately two-thirds of the time the price in a particular year will likely fall between the range of 89% and 105% of the annual average price. The smaller the variability factor (the closer the points are to the monthly price index), the more reliable the monthly index is.

Seasonal patterns for marketing and prices tend to differ depending on the class of cattle. A discussion on the seasonal price patterns for fed cattle and two classes of feeder steers follows as well as a discussion on the variability.

Feeder Steers (500 to 600 pounds): Figure 2

On average, during the 2005-2014 period, prices had a relatively small difference in the average price index throughout the entire year, with only one to two percent off from the average annual price. Price tended to rise from January through about August then drop through October and rise again through December. The smallest variability in prices was during June and September.

Feeder Steers (700 to 800 pounds): Figure 3

The seasonal price index for the 700 to 800 pound steers shows a distinct seasonal pattern during the 2005-2014 period. Prices tended to be the highest during late summer and early fall with the lowest prices in January. Prices tend to be the most variable in winter months.

Fed Steers (1100 to 1300 pounds): Figure 4

Fed steer prices during the 2005-2014 period generally rose through the first quarter and the early part of the second quarter, reaching a peak level in March and April. The prices then trended downward through about June with an upward trend peaking in November. Variability was lowest in June and highest in December and January.

Seasonal price indexes can also be used to forecast prices for the months ahead based on historical relationships. Combining seasonal price patterns with current market information can be used as a simple tool to project market conditions in the future. To forecast a future month, divide the current month's average price by the index for the current month and multiply this number by the index for the future month. For example, if August feeder steer prices for 500-600 pound steers average $260 per cwt., the forecast for October would be $260/101.9 x 97.8 = $249.54. Adjusting for the variability suggests that there is a 68 percent probability that the October monthly average price would fall between $242.44 and $256.64.

Projecting future prices using the above method is only one step in evaluating market conditions. As discussed before, 2014 did not follow seasonal price patterns. In the above projections, assumptions are made that the current prices accurately reflect all supply and demand conditions and that market conditions are stable. One may need to adjust, up or down, the seasonal price projections calculated using this method to account for one's perception of other (nonseasonal) factors that may be influencing current market prices.

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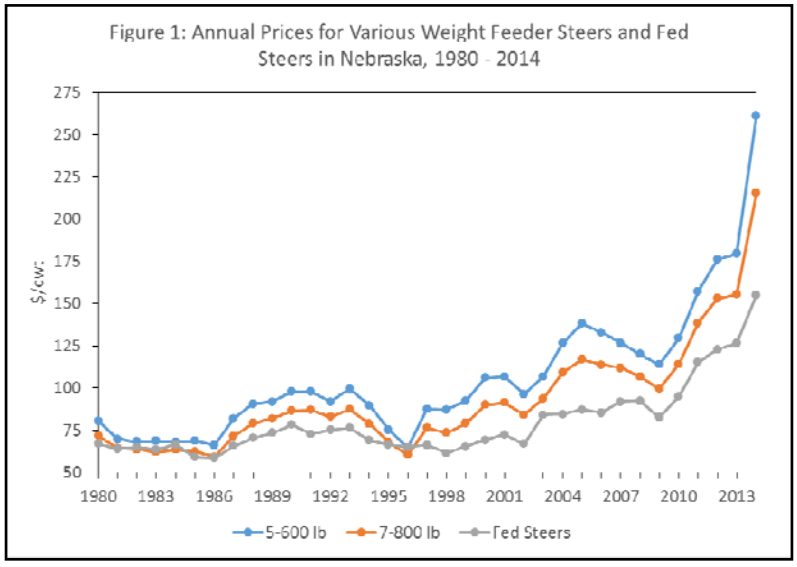

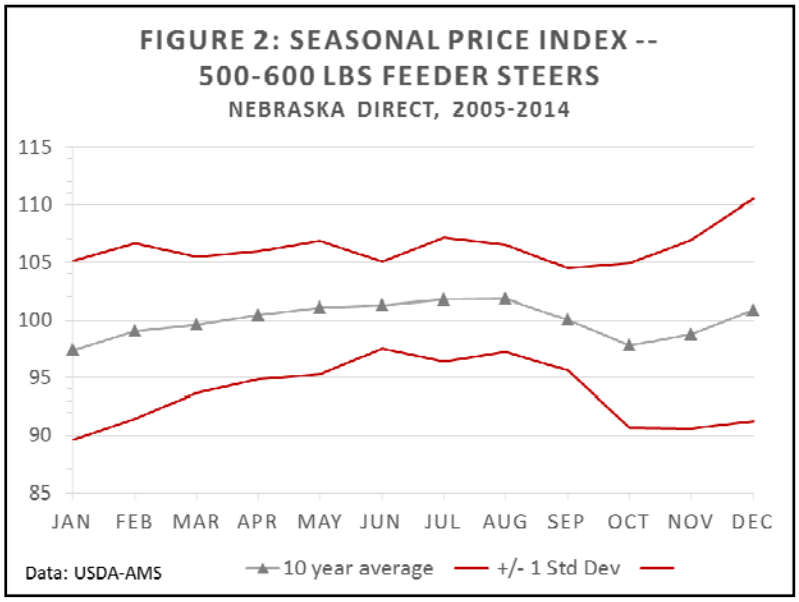

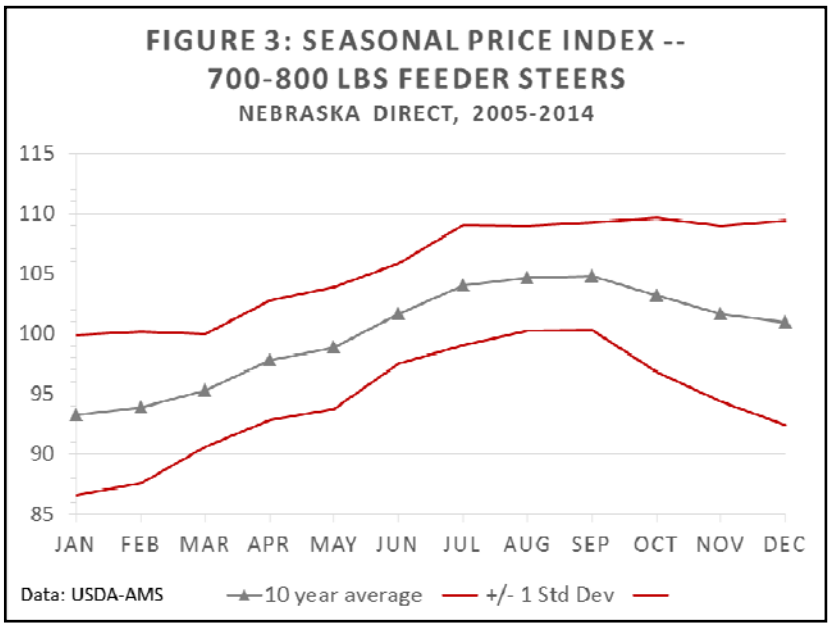

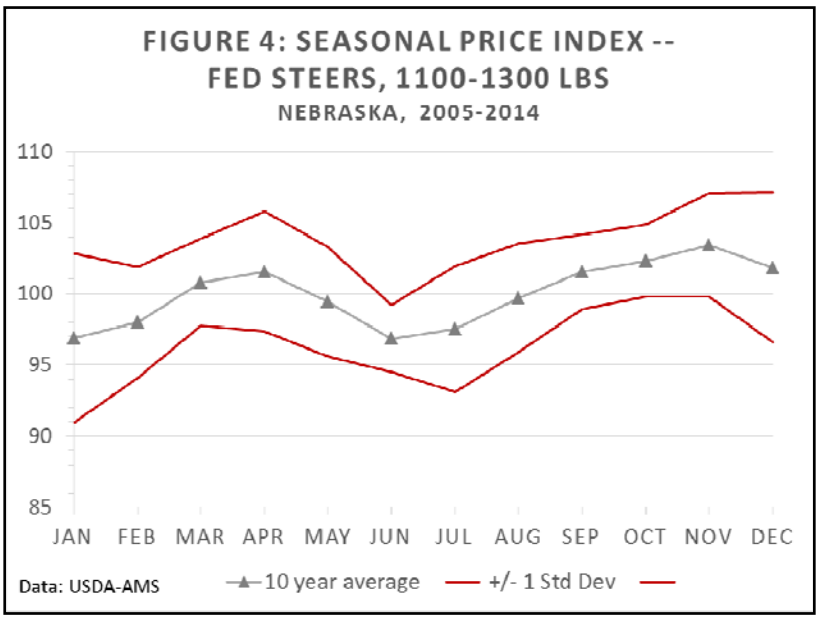

Table 1: Seasonal Price Index and Variability by Cattle Type, Nebraska, 2005-2014

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
500-600 lb. Steers												
Price Index	97.4	99.1	99.6	100.4	101.1	101.3	101.8	101.9	100.1	97.8	98.8	100.9
Variability	7.8	7.6	5.9	5.6	5.8	3.8	5.4	4.7	4.5	7.1	8.2	9.7
700-800 lb. Steers												
Price Index	93.3	93.9	95.3	97.8	98.8	101.7	104.1	104.6	104.8	103.2	101.7	100.9
Variability	6.6	6.3	4.7	5.0	5.1	4.2	5.0	4.4	4.5	6.4	7.3	8.5
Choice Steers												
Price Index	96.9	98.0	100.8	101.6	99.5	96.9	97.5	99.7	101.6	102.3	103.4	101.9
Variability	5.9	3.9	3.0	4.2	3.8	2.3	4.5	3.8	2.6	2.5	3.6	5.3

Data: USDA-AMS