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## The Growing Concentration of Nebraska Agricultural Production

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# Cornhusker Economics

Cooperative Extension

 Institute of Agriculture & Natural Resources  
 Department of Agricultural Economics  
 University of Nebraska – Lincoln

## The Growing Concentration of Nebraska Agricultural Production

Market Report	Yr Ago	4 Wks Ago	6/11/04
<b>Livestock and Products,</b>			
<b>Average Prices for Week Ending</b>			
Slaughter Steers, Ch. 204, 1100-1300 lb Omaha, cwt	\$77.41	\$88.39	\$91.14
Feeder Steers, Med. Frame, 600-650 lb Dodge City, KS, cwt	91.61	*	*
Feeder Steers, Med. Frame 600-650 lb, Nebraska Auction Wght. Avg	95.77	120.67	121.00
Carcass Price, Ch. 1-3, 550-700 lb Cent. US, Equiv. Index Value, cwt	126.39	143.78	142.93
Hogs, US 1-2, 220-230 lb Sioux Falls, SD, cwt	48.00	60.50	56.00
Feeder Pigs, US 1-2, 40-45 lb Sioux Falls, SD, hd	*	39.00	39.00
Vacuum Packed Pork Loins, Wholesale, 13-19 lb, 1/4" Trim, Cent. US, cwt	136.67	142.23	134.24
Slaughter Lambs, Ch. & Pr., 115-125 lb Sioux Falls, SD, cwt	*	*	103.50
Carcass Lambs, Ch. & Pr., 1-4, 55-65 lb FOB Midwest, cwt	191.74	188.30	201.44
<b>Crops,</b>			
<b>Cash Truck Prices for Date Shown</b>			
Wheat, No. 1, H.W. Omaha, bu	3.25	3.65	3.61
Corn, No. 2, Yellow Omaha, bu	2.31	2.73	2.70
Soybeans, No. 1, Yellow Omaha, bu	6.14	9.51	8.54
Grain Sorghum, No. 2, Yellow Kansas City, cwt	3.94	4.75	4.64
Oats, No. 2, Heavy Minneapolis, MN, bu	1.75	1.66	1.65
<b>Hay,</b>			
<b>First Day of Week Pile Prices</b>			
Alfalfa, Sm. Square, RFV 150 or better Platte Valley, ton	117.50	150.00	150.00
Alfalfa, Lg. Round, Good Northeast Nebraska, ton	60.00	55.00	55.00
Prairie, Sm. Square, Good Northeast Nebraska, ton	127.50	87.50	87.50
* No market.			

With the June 2, 2004 release of final numbers of the 2002 Agricultural Census, we gain a new benchmark of production agriculture and the trends underway.<sup>1</sup> While there are many interesting aspects to observe, one of the most striking features is the magnitude of the production concentrated among the larger production units, and the momentum of this trend over time. Nebraska is **not** a state of some 49,000 farms of similar size and function, but rather one of farm size extremes.

The 2002 Agricultural Census reported average sales per Nebraska farm of nearly \$197,000 in 2002. But that average alone is not very meaningful since one out of five Nebraska farms (9,820 farms) had less than \$2,500 of agricultural sales in 2002. In contrast, at the other end of the size spectrum one out of every fifty Nebraska farms (1,020 farms) reported annual sales volume of at least \$1 million. These large farms (perhaps more appropriately called agricultural production units) had average sales of nearly \$4.7 million, and accounted for total agricultural sales in 2002 of \$4.8 billion, which represented half (49.8 percent) of the state's total agricultural sales. For these million-plus farms, the bulk of their sales (81 percent) was concentrated in cattle and calves. However, their presence was significant in other livestock and crop enterprises as well.

The magnitude of production concentration can be analyzed in greater detail across the census volume-of-sales size classes by using a Lorenz Curve and calibrating a Gini Ratio concentration measure. The Lorenz Curve is nothing more than the plotting of the accumulated percentage of farm numbers on the horizontal axis from smallest to largest while plotting the associated percentage accumulation of agricultural sales on the vertical axis (Figure 1). If all farms were equal in volume of output then the distribution of farms would follow the diagonal line. However, the greater

<sup>1</sup> The 2002 Agricultural Census is available online at <http://www.nass.usda.gov/census/>



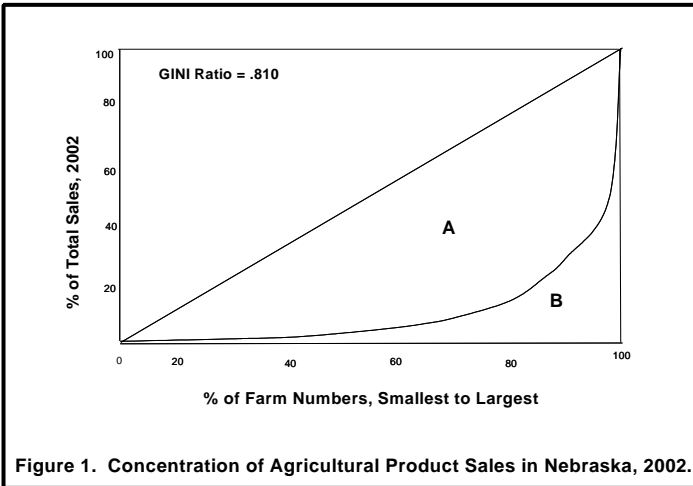
the concentration, the more skewed the Lorenz Curve will be from the diagonal line.

centration of output from a single producer). As calculated for Nebraska farms, the Gini Ratio for 2002 was .810! This is indicative of a high level of concentration of production output.

In Table 1, we have constructed a historical table of production patterns from earlier census-year benchmarks. It is obvious from this historical perspective that agricultural production output has continued to be more and more concentrated over time. In virtually every subsection of this state's agricultural production system, the trend continues unabated towards fewer and larger units.

As for implications of these patterns, it may appear that production agriculture in this state as well as elsewhere is moving rather quickly towards an industrialized-style of agriculture characterized by specialization, economies of size and scale, sophisticated technology and complex business integration. To be sure, we can find exceptions to this pattern, and even identify those that profitably operate within economically-viable niches. But the mega-agricultural forces are very pronounced. If society desires a more diverse type of agricultural production, then appropriate policy steps may need to be taken in the very near future.

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From this graphic representation of the 2002 data one can essentially read off the relative contributions of the various parts of the farm size continuum. For example, it is evident that 90 percent of Nebraska's farms accounted for only 30 percent of the state's agricultural sales in 2002, while the largest 10 percent of farms contributed the other 70 percent.

From the same data used to construct the Lorenz Curve, a Gini Ratio of concentration can also be derived. The Gini Ratio is a single number which is calculated by dividing the area between the diagonal line on the Lorenz Curve (Area A, Figure 1) by the total area under the diagonal (A + B, Figure 1). When calculated, the Gini Ratio will range from 0.0 (identical output across all producers) to 1.0 total con-

**Table 1. Concentration of Agricultural Product Sales in Nebraska Over Time, Selected Census Years**

Census Year	GINI Ratio of Concentration	Percent of Market Value of Annual Agricultural Production Sales by ---- of Farms			
		Largest 1%	Largest 10%	Largest 20%	Largest 50%
----- Percent -----					
1959	.485	18.0	42.5	57.0	82.5
1969	.635	26.0	54.0	68.8	90.0
1982	.676	34.0	58.0	71.5	91.5
1992	.754	40.0	65.0	78.0	95.0
2002	.810	43.0	70.0	83.0	97.0

Source: Census of Agriculture Series for Nebraska

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