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# Feedgrain Prices, Hog Production and Fixity

Glenn A. Helmers

*University of Nebraska - Lincoln*

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# Cornhusker Economics

Cooperative Extension

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

## Feedgrain Prices, Hog Production and Fixity

Market Report	Yr Ago	4 Wks Ago	3/24/00
<b><u>Livestock and Products,</u></b>			
<b><u>Average Prices for Week Ending</u></b>			
Slaughter Steers, Ch. 204, 1100-1300 lb Omaha, cwt. ....	\$103.00	\$67.84	\$72.83
Feeder Steers, Med. Frame, 600-650 lb Dodge City, KS, cwt. ....	81.00	93.45	93.99
Feeder Steers, Med. Frame 600-650 lb, Nebraska Auction Wght. Avg. ....	83.71	96.79	98.18
Carcass Price, Ch. 1-3, 550-700 lb Cent. US, Equiv. Index Value, cwt. ....	97.48	103.97	112.46
Hogs, US 1-2, 220-230 lb Sioux Falls, SD, cwt. ....	27.50	41.63	42.00
Feeder Pigs, US 1-2, 40-45 lb Sioux Falls, SD, hd. ....	*	44.00	62.50
Vacuum Packed Pork Loins, Wholesale, 13-19 lb, 1/4" Trim, Cent. US, cwt. ....	86.30	111.80	*
Slaughter Lambs, Ch. & Pr., 115-125 lb Sioux Falls, SD, cwt. ....	58.00	80.88	79.00
Carcass Lambs, Ch. & Pr., 1-4, 55-65 lb FOB Midwest, cwt. ....	150.00	170.00	170.00
<b><u>Crops,</u></b>			
<b><u>Cash Truck Prices for Date Shown</u></b>			
Wheat, No. 1, H.W. Omaha, bu. ....	3.10	2.80	2.73
Corn, No. 2, Yellow Omaha, bu. ....	2.09	1.95	2.05
Soybeans, No. 1, Yellow Omaha, bu. ....	4.68	4.76	4.99
Grain Sorghum, No. 2, Yellow Kansas City, cwt. ....	3.63	3.22	3.59
Oats, No. 2, Heavy Sioux City, IA, bu. ....	1.22	*	1.35
<b><u>Hay,</u></b>			
<b><u>First Day of Week Pile Prices</u></b>			
Alfalfa, Sm. Square, RFV 150 or better Platte Valley, ton. ....	100.00	85.00	105.00
Alfalfa, Lg. Round, Good Northeast Nebraska, ton. ....	42.50	85.00	85.00
Prairie, Sm. Square, Good Northeast Nebraska, ton. ....	62.50	*	*
* No market.			

One of the characteristics of the feedgrain sector in recent years has been its large year to year price fluctuations. There are two possible causes for these fluctuations in prices: 1) short-run (one year or less) changes in domestic and export demands, and (2) weather-related shifts in the supply of feedgrains in the face of a feedgrain demand, which exhibits little price responsiveness in the short-run. While both aspects may be involved, here we will examine only the second issue of why fluctuations in domestic feedgrain supply result in such wide fluctuations in prices, due to feedgrain demand being so unresponsive to short-run prices.

When year to year shifts in the production of a commodity result in wide price swings, the underlying cause is a product which has inelastic demand. The use of an inelastic demand product does not strongly increase as price falls. Another view of inelastic demand is that price must fall significantly for increased supplies to clear the market. Why is the market demand for feedgrains like this? The answer lies in the nature of industries which use feedgrains. In particular, it has been suggested that industries such as the hog industry are themselves not very responsive in the production of hogs as hog prices change. This phenomenon was very evident in recent years as significantly reduced hog prices did not result in major hog production cutbacks. Often it is suggested that the cause of this unresponsiveness is production fixity where resources such as labor and capital are committed to hog production and not easily changed to other uses. Under these circumstances as long as only variable costs can be covered, production continues even though all costs (including costs of the fixed resources) are not met. Thus, fixed resources are viewed as "free" in the short-run. However, for the argument to hold that the cause of hog production not falling in response to low hog prices is caused by fixity requires that hog production would be similarly unresponsive to high hog prices. The result of a



hog industry unresponsive to hog prices is that the demand for feedgrains for use in hog production is inelastic. When hog production does not markedly respond to changes in hog prices, the use of feedgrains by hog producers in response to feedgrain price changes is similarly unresponsive. The result then is that when changes in the supply of feedgrains occur, feedgrain prices rise and fall significantly.

In addition, it is commonly suggested that hog production is becoming even less responsive to hog prices because of the nature of newer hog production units. It is frequently suggested that newer hog production facilities involve an even higher level of fixed resources than older methods. Should this be true, it means that hog producers are willing to produce hogs at lower prices than previously, since short-run variable costs are now lower because newer production processes involve a higher proportion of costs which are fixed. This perspective that newer hog production facilities involve more fixity appears quite logical, but we need to be careful in our interpretation, if this is in fact, what has occurred. In some ways this phenomenon of increasing fixity, if true, is at variance with what is commonly termed "the industrialization of agriculture." It would be expected that under a more industrialized structure, hog production would be more, not less responsive to price and less likely to remain in production when total costs cannot be met.

While the pork producing sector is only one user of feedgrains and other factors may be contributing to high fluctuations in feedgrain prices, this issue of the changing nature of the hog industry is important to examine. The issue of fixity and short-run decision making is complex and various forces may simultaneously be occurring. In terms of whether hog production is increasingly being produced under more fixity and thus less price responsive, six observations are offered here.

1. In general, does labor in hog production have more alternative uses than in earlier decades? Also, is labor in newer facilities increasingly a purchased input? If so, less, not more fixity is a characteristic of newer hog producing facilities.
2. In addition to maintenance, do producers view their use of facilities involving "wear out" costs as opposed to being "free?" Under this perspective, whenever facilities are used it hastens the time when they must be replaced. If this is the case the use of the facilities is perceived to be a variable or operating cost. Under these circumstances we should not conclude that newer hog production methods necessarily involve higher levels of fixity.
3. Fixity is situation dependent. What resources are fixed in the short-run to one operation may be variable to another. In the short-run, producers do

not all behave in the same manner because of differences in fixity perception. In aggregate, it is possible that new hog operations may involve more relative fixity with respect to capital but less with respect to labor.

4. Feed efficiency. The underlying nature of hog production response to price depends on the nature of the hog production process and how feed, labor, capital, etc., are transformed into production. The understanding of how this has or has not changed requires empirical analysis. However, we know that if feed efficiency has increased, this results in a hog supply relationship which is more responsive to hog prices because feed is a variable input and its efficiency has increased.
5. "In and Out" Production. It is frequently suggested that when hog production occurs using capital intensive facilities, producers are less likely to go "in and out" of production as hog prices change, but rather they maintain stable production. If true, this tendency leads to less price responsiveness in aggregate compared to one where some producers drop out of production as prices fall. Here we must be careful to distinguish between fixity alone and a change in production efficiency. A newer more efficient production process allows variable costs to be reduced and enables producers to produce in the short-run at prices that previously did not cover variable costs. Should this be the case, it is technological change in the hog production process which is responsible for this ability to produce at lower prices, not fixity. It is perhaps this phenomenon that we are seeing which explains why hog production has not declined under low hog prices.
6. How hog production changes in the short-run in response to hog price changes is expected to be largely the same, whether producers provide all the resources or if contractual arrangements are in place whereby one party provides the variable cost items and the other party provides the fixed cost resources.

In conclusion, it is obvious that in recent years price variability in feedgrains is high. This occurs in part because feedgrain using industries such as hog production are not output responsive to changes in hog prices. Yet the cause of this apparent lack of responsiveness in the hog industry is not clear.

Glenn A. Helmers, (402) 472-1788  
Professor, Agricultural Economics