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Labor Costs and Production Efficiency

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Cornhusker Economics

Cooperative Extension

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

Labor Costs and Production Efficiency

Market Report	Yr Ago	4 Wks Ago	1/02/04
<u>Livestock and Products,</u>			
<u>Average Prices for Week Ending</u>			
Slaughter Steers, Ch. 204, 1100-1300 lb Omaha, cwt	\$74.65	\$99.15	\$74.96
Feeder Steers, Med. Frame, 600-650 lb Dodge City, KS, cwt	*	102.30	*
Feeder Steers, Med. Frame 600-650 lb, Nebraska Auction Wght. Avg	89.84	108.05	106.42
Carcass Price, Ch. 1-3, 550-700 lb Cent. US, Equiv. Index Value, cwt	112.61	156.07	124.37
Hogs, US 1-2, 220-230 lb Sioux Falls, SD, cwt	34.00	36.00	39.00
Feeder Pigs, US 1-2, 40-45 lb Sioux Falls, SD, hd	*	*	*
Vacuum Packed Pork Loins, Wholesale, 13-19 lb, 1/4" Trim, Cent. US, cwt	89.99	88.89	97.86
Slaughter Lambs, Ch. & Pr., 115-125 lb Sioux Falls, SD, cwt	83.50	*	*
Carcass Lambs, Ch. & Pr., 1-4, 55-65 lb FOB Midwest, cwt	164.66	180.91	182.36
<u>Crops,</u>			
<u>Cash Truck Prices for Date Shown</u>			
Wheat, No. 1, H.W. Omaha, bu	3.89	3.75	3.98
Corn, No. 2, Yellow Omaha, bu	2.24	2.28	2.41
Soybeans, No. 1, Yellow Omaha, bu	5.65	7.39	7.86
Grain Sorghum, No. 2, Yellow Kansas City, cwt	4.55	4.52	4.65
Oats, No. 2, Heavy Minneapolis, MN, bu	2.21	1.57	1.71
<u>Hay,</u>			
<u>First Day of Week Pile Prices</u>			
Alfalfa, Sm. Square, RFV 150 or better Platte Valley, ton	140.00	130.00	130.00
Alfalfa, Lg. Round, Good Northeast Nebraska, ton	80.00	62.50	55.00
Prairie, Sm. Square, Good Northeast Nebraska, ton	117.50	*	*
* No market.			

Efficiency in crop and livestock production has always been considered to be the key to understanding the economic competitiveness of different farm sizes. Differences in efficiency is considered to be the driving force behind farm consolidation and resulting changes in farm size structure. The tool used to portray efficiency is termed a long-run average cost function, showing the cost per unit of production at different farm sizes. The long-run average cost function is conventionally shown as "L" shaped with significantly large decreases in cost of production until moderate sizes are reached, with little decline thereafter. Under this framework we might expect that small farms would largely disappear because of their competitive cost disadvantage, yet this has not occurred. In fact, even though average farm size continues to increase, small farms show evidence of remaining a permanent fixture in agriculture. This suggests that some processes used in estimating long-run cost functions by size of farm may need to be re-examined.

Long-run production costs include conventional operating costs (fertilizer, feed, etc.) as well as ownership costs for depreciable inputs. In the latter case this involves depreciation, interest in investment and other ownership costs, for the least cost durable asset set at each farm size. Sometimes it is concluded that there are major size economies in farm production because small farms would have very high durable asset ownership costs per unit of production if they were to use the same asset set as large farms. However, the optimal durable asset set for small farms is different than that for larger farms. Hence, one must be careful not to conclude that small farms are necessarily inefficient simply because they do not have the size to justify the equipment set used by larger farms.



In addition, labor costs must be included in long-run costs and this involves considerable complexity. In costing operator labor, economists conventionally use an opportunity cost concept where labor used in agricultural production is valued at its alternative use outside agriculture. Sometimes this is used in a very short-run context, valuing labor at its immediate alternative return in the surrounding area. Some have broadened this to value agricultural labor according to the abilities, education and training of the operator. Regardless of how it is measured, a major problem arises when it is assumed that all small farms have an identical opportunity labor cost.

A different perspective of labor opportunity cost helps us to understand why many small farms continue to remain in production. This approach values the opportunity cost of farm operator labor as that return necessary to meet family income targets. Under this approach where operators and/or spouses have full or part-time earnings outside agriculture, the necessary return (or cost) required from agriculture is less than for those who depend exclusively on agriculture earnings.

Clearly full or part-time nonfarm employment opportunities for farm families are greatest in proximity to cities, leading to lower agricultural opportunity labor costs (the consequential agricultural return necessary to meet family income targets). Interestingly, small farms constitute their greatest proportion around cities. In less densely populated areas where nonfarm employment opportunities are fewer, returns from agriculture required to meet family income targets are higher, leading to greater pressure for farm consolidation.

It then becomes difficult to generalize the cost of operator labor in agriculture, particularly for small farms. At one extreme are retirees, those with sufficient investment returns or those families with very high outside earnings who require little or no agricultural returns to meet family income target levels. In these cases labor may not even involve a cost. It could be argued that in rare cases agricultural labor has a negative cost, where labor on farm is used in a recreational sense. At the other extreme are those small farms depending entirely on farm earnings to meet family needs, thus having a much higher opportunity labor cost.

The result of this is that efficiency of production for small farms is a very elusive concept because it is difficult to economically measure many behavioral forces. One way this is exhibited is by asking the question of which producers would remain in production were the price of an agricultural product significantly reduced for an extended period of time? Normally it is thought that small producers would face higher economic pressure than larger producers. For many small producers this would certainly be the case, yet others may face less economic pressure to discontinue production than large producers because they have income from other sources.

Interesting policy questions arise from the issues raised above. It is clear that if having a greater proportion of small farms is an objective, greater availability of nonfarm employment would contribute to that objective. For grain commodity policy the issues become very complex because small farm producers do not equally value program benefits. Last is the broad issue of how much gain in efficiency would be gained by a reduction in small farms. The implication of the labor issues discussed here suggest that it is not as great as previously thought.

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