

# **Costs, Returns, Production and Financial Efficiency of Niche Pork Production in 2008**

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## **Introduction**

In recent years the production of niche pork has been expanding in response to growing demand for products with specific attributes, such as pork from animals produced without antibiotics, using bedded pens and with outdoor access. This growth has occurred, in many situations, from the ground up. Entrepreneurial producers have identified unmet market demands and opportunities for new products. These producers then set out to develop products to satisfy this demand and marketing systems to get these niche products to the consumer.

However, information on the costs, returns and production and financial performance of niche pork production systems is limited. As demand expands for niche pork, accurate information on these topics needs to be available for producers to evaluate opportunities in niche pork production. Additionally, niche pork producers do not have sufficient information to benchmark their own operations and evaluate how they are performing and where they can look for improvements. For those thinking about entering niche pork production, information needed to develop expected production levels, costs, and potential returns is limited.

Given the lack of information, a project was undertaken to obtain production, cost, and return information for niche pork production. This information is needed to assist niche pork producers in determining their production potential and assist them in improving their production efficiencies. In turn, this will improve niche pork production and lead to increased returns and improved survivability of niche pork producers.

To obtain niche pork production cost and efficiency information, a focus was placed on working with niche pork producers in establishing production and financial record systems for their pork production operations. Project staff included several Iowa Farm Business Association consultants, and area extension swine specialists in Iowa and Nebraska. These staff worked with participants to establish and maintain the record system in 2006, 2007, and 2008. They also worked with producers in providing year end summaries and analysis. The specialists' direct contact provided uniformity to data recording and analysis. A report was prepared for the 2006 results (Kliebenstein, Stender et al 2006), and 2007 results (Kliebenstein, Stender et al 2007).

This report provides a summary of the costs, returns, and production and financial performance for participating niche pork producers for the year 2008. There were 18 niche pork farrow-to-finish producers who completed records for 2008. These 18 operations were typically 'natural' producers, meaning their pigs were raised without antibiotics using bedded pens with outdoor access.

For the analysis, information such as corn price, interest on capital, and pig inventory was standardized between cooperators. The corn price utilized was \$5.06 per bushel. This represents the monthly average Iowa corn prices for the year 2008. This is considerably higher than for previous years. The value for other grains and supplement was included at the values provided by the producers with the assistance of the extension specialists. The inventory values for breeding livestock was placed at \$150 per animal and remained the same for the beginning

and ending inventory. Pig inventory values were held constant between the beginning and ending inventories. Pigs weighing 70 pounds or less were valued at \$50 with pigs near market weight values at \$110. Interest on operating capital and fixed capital was calculated at 5 percent. Labor value was standardized at \$15 per hour.

## Results and Discussion

### Returns

Returns from producing niche pork are provided in Table 1. Averages are included for all 18 producers. These producers were also sorted based on return to capital, unpaid labor and management per hundred pounds of pork produced, and averages are also included for the top 6 producers and the bottom 6 producers as sorted this way.

Table 1. Returns from Producing Niche Pork – 2008			
Sorted by Return to Capital, Unpaid Labor and Management, \$/Cwt			
Item	Average	Top 6 Farms	Bottom 6 Farms
Number of Producers	18	6	6
Hundred Pounds of Pork Produced	1553	1790	1234
Return to Capital, Unpaid Labor and Management per Farm	\$-5,910	\$9,356	-\$13,176
Return to Capital, Unpaid Labor and Management per Cwt.	\$-3.80	\$5.23	-\$10.68
Return per Hour for All Hours of Labor and Management	\$-12.36	\$9.23	\$-9.82
Percent Return on Capital	-25	-6	-51
Average Price per Cwt of Cull Breeding Stock Sold	\$39.64	\$45.12	\$45.52
Average Price per Cwt. of Market Hogs Sold	\$61.87	\$61.27	\$62.37
Average Price per Cwt of All Animals Sold	\$58.79	\$59.65	\$58.50
Margin Over All Costs/Cwt. Produced, Including Inventory	\$-19.76	\$-3.40	-\$35.32
Margin Over All Costs per Head Sold, Including Inventory	\$-52.89	\$-9.08	\$-95.21

The return levels were quite different between the top 6 and bottom 6 herds. On average, the return to capital, unpaid labor and management per hundred pounds of pork produced was -\$3.80 for all 18 farms, but \$5.23 for the top 6 herds and -\$10.68 for the bottom 6 herds. The total return to capital, unpaid labor and management for the pork production operation was -\$5,910 for the average operation, but almost \$9,400 for the top herds and below -\$13,100 for the bottom herds.

The average return to labor for all farms was -\$12.36 per hour, but this number was \$9.23 per hour for the top herds and -\$9.82 per hour for the bottom herds. Thus, after all costs were paid the average per hour wage earned by all 18 producers was -\$12.36. Note that prices received for market hog sales were similar between the groups: \$61.27 for the top group compared to \$62.37 for the bottom group and \$61.87 on average. Thus, prices received for hogs sold by the top and bottom groups had little impact on the differences experienced in their returns. Market hog prices increased by about \$10.00 per hundred pounds from 2007 to 2008. However, the production costs increased even more rapidly, leading to high loss levels. This led to a very tough year for producers which is clearly shown by the extremely low to negative returns.

The margin over all costs, including labor valued at \$15 per hour, averaged -\$3.40 per hundred pounds of pork produced for the top group and -\$35.32 for the bottom group, which is a difference of \$31.92 per hundred pounds of pork, or about \$88.00 for a 275 pound hog. For all 18 producers, the margin over all costs, including labor valued at \$15 per hour, was essentially a zero return for labor.

### Cost of Production

Data on the cost of producing niche pork are provided in Table 2. The method of categorization is the same as for the return information shown in Table 1.

Table 2. Cost of Producing Niche Pork - 2008			
Sorted by Return to Capital, Unpaid Labor and Management, \$/Cwt			
Item	Average	Top 6 Farms	Bottom 6 Farms
Number of Producers	18	6	6
Hundred Pounds of Pork Produced	1553	1790	1234
Operating Costs per Cwt. Produced			
Feed Cost	\$50.73	\$43.57	\$58.46
Other Operating Cost (except labor)	\$9.96	\$9.66	\$7.89
A. Utilities and Fuel	\$3.41	\$3.46	\$3.44
B. Injectables, Vaccines, etc.	\$1.22	\$1.49	\$0.51
E. Capital Charge on Operating Costs	\$1.44	\$1.31	\$1.59
Total Operating Costs Per Cwt.	\$60.69	\$53.23	\$66.35
Fixed Costs per Cwt. Produced			
Depreciation, Taxes & Ins.	\$3.03	\$1.14	\$4.05
Capital Charge on Fixed Investment	\$2.23	\$1.20	\$2.82
Total Fixed Costs Per Cwt. Produced	\$5.26	\$2.34	\$6.87
Cost of Labor (All) Per Cwt. Produced	\$14.65	\$9.83	\$25.28
Total Cost per Cwt. Produced	\$81.40	\$66.52	\$98.95

Table 2 shows that the average total cost per hundred pounds of pork produced was \$81.40 for all 18 farms. This is \$14.00 over the 2007 level, a .21 percent increase. The average total operating cost (excluding labor) for all 18 farms was \$60.69 per hundred pounds of live hog, with feed costs being \$50.73 of this total and other operating costs (excluding labor) making up the remaining \$9.96. Average fixed costs were \$5.26 per hundred pounds, and average labor costs were \$14.65 per hundred pounds. These numbers translate into total costs of about \$225.00 per market hog produced.

Table 2 also shows that the top 6 producers had average total costs of \$66.52 per hundred pounds produced, while the bottom group averaged \$98.95, which is a difference of \$32.43, or about \$90.00 per hog produced. Average feed costs for the top producers were \$14.89 per hundred pounds below the average for the bottom group (\$43.57 vs \$58.46), and other operating costs (excluding labor) for the top group were higher than for the bottom group (\$9.66 vs \$7.89). Fixed costs for the top producers averaged \$2.34 per hundred pounds of pork produced, while this number for the bottom producers was \$6.87. Labor cost per hundred pounds for the bottom

producers was about 2.5 times that of the top producers (\$9.83 vs \$25.28).

### Cost Differences

Table 3 compares cost differences between the top and bottom producers. These data show that 40 percent of total cost differences are in operating costs, which included feed and other operating expenses, but not labor. Note also that differences in feed costs represented about 45 percent of the cost difference between the top and bottom producers, while the differences in other operating costs (excluding labor) represented -5 percent of the cost differences. The difference in labor cost was quite dramatic in 2008. While it represented about 20 percent of the production cost, it represented over 46 percent of the cost difference between the top and bottom producer. Close attention to controlling feed costs is also important.

Item	Group			Percent of Difference
	Top 6	Bottom 6	Difference	
Operating Costs (feed and other)	\$53.23	\$66.35	+\$13.12	40
Fixed Costs and operating interest	\$2.34	\$6.87	+\$4.53	14
Labor Costs	\$9.83	\$25.28	-\$15.45	46
Total Costs	\$65.40	\$98.50	+\$33.10	100
Feed Costs	\$43.57	\$58.46	+\$14.89	45
Other Operating Costs	\$9.66	\$7.89	+\$1.77	-5

These cost difference results for niche pork production are different than what is seen for the more traditional confinement commodity pork producers. While feed costs are important for both system types, for commodity producers the fixed costs of facilities are relatively more important, which in turn means that facility use, or adequate “through-put” of hogs, is very important for these producers. The lower relative significance for fixed costs for niche pork producers is perhaps not surprising. Many niche producers in the record system had low investment in production facilities. Thus, the need to get pork out the door to keep fixed cost under control was not as pressing. The difference in labor cost is rather striking. This is related to production efficiency as it can take a similar amount of labor to care for a sow and litter. If there are fewer pigs the labor cost per pig and hundred pounds of pork increases.

### Production Efficiency – Feed and Labor

Production efficiency for feed and labor is provided in Table 4. The average number of breeding females was 61 for all 18 farms, while the average for the top 6 herds was 66 and the average for the bottom 6 was 59.

Table 4. Feed and Labor Production Information of Niche Pork Production – 2008			
Sorted by Return to Capital, Unpaid Labor and Management			
Item	Group		
	Average	Top Farms	Bottom Farms
Number of Producers	18	6	6
Hundred Pounds of Pork Produced	1553	1790	1234
Average Female Inventory	61	66	59
Number of Market Hogs Sold	517	621	367
Average Market Hog Weight, Lb.	269	263	275
Pounds of Feed Per Cwt. Produced	463	420	525
Hours of Labor Used Per Cwt. Produced	1.02	.78	1.69
Hours of Labor Used Per Breeding Female Per Year	23	23	28

Table 4 shows that total feed used per hundred pounds of pork produced averaged 463 pounds for all producers, but 420 pounds for the top 6 herds and 525 pounds for the bottom 5 herds. Thus, the top herds averaged 105 fewer pounds of feed per hundred pounds of pork produced compared to the bottom herds. These data suggest that there is ample room for improvement in managing feed fed and feeding technologies.

Labor use was higher for the bottom group than the top group. Total labor use per breeding female per year for the top group was 23 hours as compared to 28 hours for the bottom group. Given the increased production efficiency of the top group, the difference in average labor use per hundred pounds of pork produced is even greater between these groups: .78 hours per hundred pounds for the top farms and 1.69 hours per hundred pounds for the bottom farms. This represents more than double the amount of labor.

### Pig Production Efficiency

Additional production efficiency information is provided in Table 5. Birth to weaning death loss averaged 18 percent of pigs born alive for all producers, and 20 percent for the top group and 20 percent for the bottom group. Thus, about one of every five pigs that were born alive did not make it to weaning. Note: a 2004 survey conducted as part of another project found that 61% of niche pork farmers said crushing was the top reason for death loss of pigs before weaning. Other top reasons were poor milking sows and scours in young pigs. It appears that addressing these causes of pig death losses in the farrowing phase is one key for improving the performance of these systems.

Table 5. Pig Production Efficiency of Niche Pork Production - 2008			
Sorted by Return to Capital, Unpaid Labor and Management			
Item	Group		
	Average	Top Farms	Bottom Farms
Number of Producers	18	6	6
Pig Death Loss, Birth to Weaning (% of Farrowed Live)	18	20	20
Pig Death Loss, Weaning to Market (% weaned)	10	8	8
Breeding Herd Death Loss (% of Breeding Herd Maintained)	4.3	2.4	7.0
Number of Pigs Weaned Per Litter	6.70	6.77	6.24
Number of Litters Weaned Per Female Per Year	1.50	1.80	1.16
Pigs per Sow Per Year	9.3	11.9	6.4
Litters Weaned Per Farrow Pen Per Year	4.1	4.9	3.5
Pigs Weaned Per Farrow Pen Per Year	28	36	21

Pig death loss from weaning to market was quite high as well for all groups. It was 10 percent for the average herd; 8 percent for the top group and 8 percent for the bottom group. Pig death loss is a big problem for niche pork producers. Breeding herd death loss was in the 2.5 to 7 percent range: 4.3 percent for all herds, and 2.4 percent for the top herds and 7.0 percent for the bottom herds. The top herds on average weaned about .5 more pigs per litter (6.77) than the bottom herds (6.24). On average the number of litters weaned per breeding female per year was 1.50, with this number being 1.80 for the top operations and 1.16 for the bottom operations. Also, the top herds averaged 11.9 pigs per sow per year while the bottom herds averaged 6.4 pigs per sow per year, which is a difference of 5.5 pigs, or about 50 percent less. This difference is dramatic. In general, pigs per sow per year is low across all groups. One explanation for the low pigs per sow per year numbers is that preweaning mortality is large in pen farrowing systems; pen breeding results in more open sow days; born alive can be lower because of gestation sow condition. Additionally, environment and later weaning age, typically more than the six week minimum in most systems, limit litters per sow in a year.

### Summary and Conclusion

Information is provided on the return, cost and pig production efficiency for niche pork production. Information from 18 niche pork producers is included in the analysis. Return levels showed that the average return to capital, unpaid labor and management return to capital, unpaid labor and management for the top 6 producers was \$5.23 per hundred pounds of pork produced, while this average was -\$10.68 for the bottom 6 producers and -\$3.80 for all 18 producers. The average margin over all costs on a per head sold basis showed a large loss (\$-52.89 for the average producer). The average return per hour of labor after all costs was -\$12.36 for all 18 producers, but \$9.23 per hour for the top 6 producers and -\$9.82 for the bottom 6 producers.

The average total cost per hundred pounds of pork produced for all producers was \$81.40, while the top third (6) had average total costs that were \$32.43 less than the bottom 6 producers (\$66.52 vs \$98.75). Production costs increased by about 21 percent over the 2007

level. The main contributor to cost differences between the top third and bottom third producers was operating costs, which included feed and other operating expenses and labor costs. These costs represented the majority of the total cost difference and were about equally split between the two; operating costs (feed and other) and labor costs.

The average female breeding herd size was 61 females. The average feed efficiency was 4.63 pounds of feed per pound of production, although the average for the top 6 herds was 4.20 and the average for the bottom 6 herds was 5.25. Average labor use was 1.02 hours per hundred pounds of pork produced. About one of every five pigs born alive died before weaning. Another 10 percent died from weaning to market. Breeding herd death loss was in the 2.5 to 7 percent range.

The information summarized here shows striking differences in many areas between the top 6 and bottom 6 producers. The areas with the largest differences are places with the most potential to help producers improve. Educational programming that targets these areas is being developed to help these producers make changes to improve their operations, which in turn will improve the position of this sector of the industry.

## **REFERENCES**

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