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# Opportunities and challenges for the US pork sector

Mark Greenwood

The US Swine Industry is going through some of the most dynamic changes that we have seen. The rising price of feedstuffs along with global demand for our product has put the industry in a state of flux. We have seen exports of US grow on a very rapid pace over the last 10 years and so far in 2008 we are exporting over 20% of our entire supply to the world. The question for the US Pork industry is where the US Pork sector fits into supplying Pork to the World.

The total number of sows in the world today is approximately over 80 million sows and the US has slightly over 6 million sows or about 7.3% of the world sow population. The important part of US pork production is even though we only have approximately 7% of the sow production in the world we produce 10% of the supply. This is done by being more efficient in sow productivity and pounds of pork produced per sow per year. China still represents over 50% of the world's supply of pork and also consumes over 50% of the World's supply of pork. The role of the US industry in the pork industry along with emerging countries will what I will outline in this paper.

## Strengths of the US pork sector

### Industry integration and competition

I see this as being a great strength for the US to compete globally with the rest of the world. Although it can be painful as what we are seeing in swine economics today this allows the best production systems to compete globally with anyone. The pork industry consolidation will continue to play a major role for producers. According to the USDA, the number of US hog producers has declined by more than 85% over the last 20 years while the average size of production facilities has increased dramatically. The National Pork Producers Council estimated that there are approximately 67,000+ pork operations today vs. approximately 3 million in the early 1950's. As the hog production industry moves to more sophisticated production techniques, the pressures on marginal producers will continue to intensify. During the last several years, a number of operations have emerged which are based on large-scale, scientific and management-intensive production of hogs. These operations have grown rapidly. The hog production industry will see continued consolidation and integration in the future. This consolidation will be driven by a number of factors, including (1) the substantial investments in equipment, improved breeding herds and process improvements required to achieve economies of scale, meet customers' demand for product quality and consistency and comply with animal welfare and environmental regulation, and (2) the increasing concentration among processors. (Table 1)

The most successful and profitable hog producers exhibit one or more of the following characteristics: (i) cost of production of the operation; (ii) state-of-the-art production techniques; (iii) strong management; (iiv) natural advantages related to such things as land mass, arable acreage, grain costs and labor force; and (v) ongoing access to efficient sources of low cost capital. Large-scale production operations that have adopted advanced production and management technologies report higher productive efficiency than smaller operations. These large-scale producers receive premium prices from pork processors based upon their ability to deliver a large quantity of consistent, high quality hogs. Less efficient, independent producers that are unable to compete are either exiting the business or becoming part of a supply chain to minimize risk and improve output while capturing economies of scale.

### Production models allow economies of scale

In analyzing production systems that are being built or designed, many sow farms that are trying to be built are greater than 5000 sows. Systems then can produce at least 2000 weaned pigs per week and then put them into a single or double fill wean to finish facility that comes from one sow source that this facility can be filled in one week on a single fill or 2 weeks on a double fill. On a double fill, half of the pigs are removed after a period of 7-8 weeks and put into a conventional finishing barn. Many productions systems today are not comingling their pigs with other sow farms and keeping each sow farm flow separate all the way to market weight. This has been recently developed to manage health better on the wean to finish side of production. Most new production systems are wean to finish systems that hold between 2000-2400 head and are tunnel ventilated type facilities.

### Cost of production

The US industry from a global perspective is also the most competitive in the world today. (see table) The biggest reason for its cost competiveness to date has been cheaper source to grain for feedstuffs and also the capabilities of the industry to do to its economy is size with larger production systems and more integrated system in pork production. A challenge for the industry currently is the rising feeds costs

**Table 1:** Lists the top fifteen producers which are measured by sow base. Sow numbers are taken directly from Successful Farming, October 2007 Pork Powerhouse. In the US, both large-scale hog producers and small, independent family farms face additional competition for market share from integrated companies who also produce hogs, such as meat processors and grain producers.

| Top hog producers 2007 | | |
|---|---|---|
| **Company** | **# of sows** | **% of industry total** |
| 1. Smithfield (1MM in US) | 1,227,000 | 16.4% |
| 2. Triumph Foods | 403,750 | 6.64% |
| 3. Seaboard Farms | 213,600 | 3.50% |
| 4. Iowa Select Farms | 150,000 | 2.47% |
| 5. Prestage Farms | 142,000 | 2.34% |
| 6. The Pipestone System | 135,600 | 2.23% |
| 7. The Maschhoffs | 115,000 | 1.89% |
| 8. Cargill | 107,000 | 1.76% |
| 9.. AMVC Management | 95,000 | 1.56% |
| 10. Maxwell Foods, Inc | 85,000 | 1.40% |
| 11. Tyson Foods | 70,000 | 1.15% |
| 12. Hormel Foods | 63,000 | 1.04% |
| 13. Progressive Swine Tech. | 55,200 | .91% |
| 14. Nebraska Pork Partners | 50,000 | .82% |
| 15. Hatfield Quality Meats | 42,000 | .6% |
| **Total top 15** | **2,954,150** | **48.58%** |
| Industry total | 6,079,000 | 100.00 |

that have occurred over the last 18 months for the US Pork sector. We have seen breakeven prices go from $110 a head in 2006 to costs today of $160-$165 a head.

As you can see in Table 2 the impact of rising feed prices on what it can do to cost of production.

A $1.00 bushel increase in the price of corn will increase the cost of production by $2.01 per head weaned and over $4.00/live cwt for market hogs. Higher interest costs account for a portion of the increase representing a higher cost of holding the inventory prior to sale. Producers with historically high production costs will struggle retaining profits, unless they are fortunate enough to add value to their product with premium revenue streams. Additional focus will be placed on feed conversions, diet formulations and the use of alternative feedstuffs. The ongoing debate in the US of food vs fuel has caused a new plateau for feed grains which has increased the cost of production in the US by $50 a head from previous levels.

## Looking ahead

The overall demographics are important drivers on meat demand. Trends in populations, age, and income in the US and export customer countries are predictable. The more the population grows the more food required and in general older populations tend to eat less meat than younger population.

Asia has over half the world's population and Africa has the fastest population growth. These two economies must improve or they will not have the income to buy US meat exports. South America and Asia have populations that are expected to grow 19% and 17% respectively, by 2020 and have growing economies. Europe and North America have the most mature populations and economies. Consumers in these two regions are not as likely to consume more meats as their income grows as the developing economies.

The growth in red meat industries need to focus on commodity production depends on being globally competitive at producing a safe wholesale and affordable products to serve the growing populations and economies in Asia and South America.

### Industry issues:

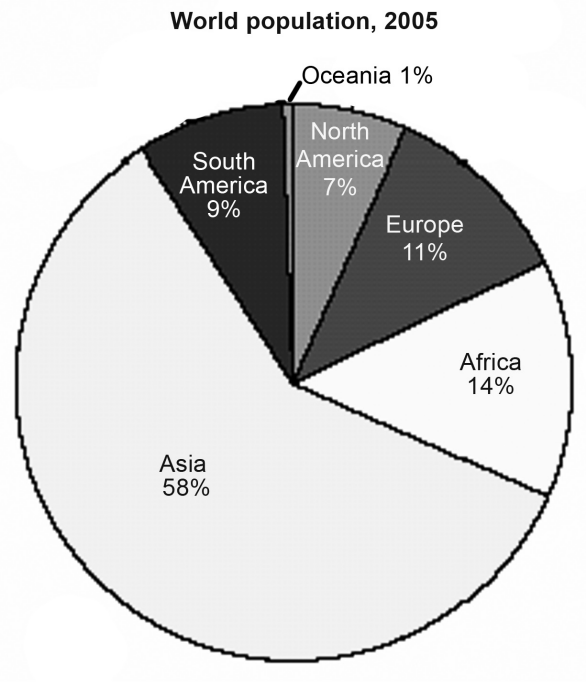
**Animal welfare -** The Pork industry should be concerned that ballot initiatives to ban gestation stalls could be offered in other states, following Arizona's passage of Proposition 204. That ballot measure, which voters approved Tuesday by 61.5 to 38.5 percent, prohibits the use of crates for pregnant pigs and for veal calves. The ban on crates takes

**Table 2:**

**Change in corn price**

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Change in corn price | - | 0.25 | 0.50 | 0.75 | 1.00 | 1.25 | 1.50 | 1.75 | 2.00 |
| Total cost/isowean | - | 0.50 | 1.01 | 1.51 | 2.01 | 2.52 | 3.02 | 3.52 | 4.03 |
| Feed cost/W-F | - | 2.39 | 4.78 | 7.17 | 9.56 | 11.95 | 14.34 | 16.73 | 19.13 |
| Additional interest | - | 0.05 | 0.11 | 0.16 | 0.21 | 0.27 | 0.32 | 0.37 | 0.42 |
| Cost/marketed hog | - | 2.95 | 5.89 | 8.84 | 11.79 | 14.74 | 17.68 | 20.63 | 23.58 |
| Cost/marketed cwt | - | 1.09 | 2.18 | 3.27 | 4.37 | 5.46 | 6.55 | 7.64 | 8.73 |

**Figure 1:** Feed cost sensitivity




effect at the end of 2012. NPPC supported the Campaign for Arizona Farmers and Ranchers, which opposed Prop. 204. Efforts to get the initiative on the November ballot were funded by animal-rights organizations, including the Humane Society of the US and Farm Sanctuary. The industry faces significant challenges on staying competitive on a global basis if this trend continues.

## Environmental

During recent decades, environmental issues associated with the production of pork and the management of pork by-products included land application of nitrogen (N), phosphorus (P), heavy metals (e.g. Cu) and the potential discharge or runoff of N and P to surface and groundwaters, respectively. More recently environmental issues have focused on aerial emissions of compounds such as ammonia, hydrogen sulphide and odor. Emerging environmental issues include emissions of particulates (especially fine particulates), the fate of pathogens contained in manure, the use of antibiotics in feed, and human health effects that may be attributed to these environmental variables.

The environmental issues represent complex scientific, social, and political challenges regarding environmental impacts and health effects attributed to pork production agriculture. The environmental technology development initiatives have proven to be equally challenging. Regarding these environmental related areas, key issues that will impact the future of pork production in the US include objective determinations of 1) environmental emission factors for aerial pollutants, 2) potential human health effects that can be attributed to these emissions, 3) potential health effects that can be attributed to the use of sub-therapeutic antibiotics in animal feed, 4) the ability of the industry to respond and adapt to new environmental rules that may result from these determinations, and finally, the ability of the industry to implement new and innovative waste treatment technologies in a manner that is economically feasible.

**Food safety –** The success of the US pork industry to be viable in the future is also dependent on the success of the pork industry to continue to produce safe high quality pork. Anybody is the US that has seen the salmonella outbreak that they was caused by tomatoes (now peppers) what that has done to companies that has produced these products. If the US pork industry would have any food safety issue it would destroy the sector as know it today. The science community that helps this industry must help lead the way to insure that we continue producing high quality product to the US consumer and to our global trade partners.

In conclusion, even though the US swine industry is under economic stress it is till the most competitive place to raise pork today. The US culture will put place higher demands on how we raise our pork and that could cause issues for us to be more competitive in the future. Developing science and technology must be achieved for us to remain the most competitive in the future.