

# Benchmarking and Cost – Production Relationships

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## ■ Background

Agri Stats is a privately held company that provides professional benchmarking services to the commercial livestock industries. Currently, benchmarking services are provided for broiler, eggs, turkey, and swine production companies as well as their slaughtering and processing plants. Agri Stats started in the mid 1980's with broiler benchmarking services. There are now twenty-one international companies participating in Agri Stats with the majority of those located in Canada and South America.

Agri Stats collects participant financial and production data electronically each month. Internal auditors convert the data, prepare it for comparison and perform the monthly audits. Each company's costs and financials are reconciled to their general ledger. Participants receive monthly detailed reports and performance summaries that allow them to compare their performance to other participants, the average of all companies and the top 25%. Current month, current quarter and previous twelve month periods are reported.

In swine, there currently are forty-five finishing locations and thirty-five sow locations included in the monthly comparison. The monthly report accounts for a little more than 1.4 million sows and 2.4 million weaned pigs. Over a twelve month period, the number of weaned pigs included in the analysis is approximately 30 million. The finishing comparison includes about 28 million pigs over a twelve month period.

Each monthly report contains eight sections for analysis and comparison: Performance Summary, Feed Mill, Ingredient Purchasing, Nursery, Finishing, Market Haul and Profit. Participants may also receive an abbreviated Key Performance Indicator report as well as historical graphs. Agri Stats account

managers conduct on-site live reviews to assist with report utilization and analysis.

## ■ Benchmarking

Benchmarking is simply the act of comparing data to improve performance. It can be and is done in various industries or in personal life. Professional sports teams compare player performances and statistics. Individuals may compare their current standard of living or status to personal goals or community norms. Businesses participate in formalized benchmarking to improved their performance, production and/or products.

Although the creation of formalized benchmarking is credited to the Rank Xerox Corporation, the practice dates back to ancient times. Japan sent teams to China in 607 AD to learn best practices for business, government and education (Zimmerman, 2003). In the book just referenced, Zimmerman mentions that “economic Darwinism” will lead to more companies participating in and utilizing benchmarking to increase production and profitability.

Zimmerman states that:

Benchmarking is a process of continuously comparing and measuring an organization’s business processing against business leaders anywhere in the world to gain information which will help the organization take action to improve performance.

Note the mention of “*continuously comparing and measuring*” and “*against business leaders*”. Obviously for benchmarking to be effective it must receive a committed and ongoing effort. Comparison should, of course, be against those companies or entities leading in the specific industry or a compilation of data from industry participants.

One benefit of benchmarking is that it contributes to the ability to see outside personal or professional practices. The term “paradigm blindness” refers to the situation when individuals or businesses become so focused on or entrenched in the operation of their respective activities they fail to see what is going on outside their world. This blindness may be a source of stagnation and an impediment to progress. Benchmarking helps open the window to allow visualization of what individuals, companies and/or competitors are doing and how one compares to them. Effective benchmarking breaks this paradigm blindness and leads to creation of practices or processes that improve performance.

Now that we realize the purpose and benefits of benchmarking, we should be able to agree upon its uses in the swine industry. In fact, it is used in various

forms. These could range from simple production comparisons to elaborate and sophisticated total production and financial comparisons. Each and every commercial swine operation is encouraged to participate in some benchmarking effort.

In the current swine industry, many efforts are made to improve or maximize performance in specific production variables. These may include Pigs Per Mated Sow Per Year, Volume Sold Per Sow Per Year, Average Daily Gain, etc. Efforts to improve performance in each area of production are necessary and crucial to the growth and survival of the industry. Benchmarking production can help improve performance. However, including only production measurements in a benchmark comparison can lead participants in the wrong direction and may create a level of “paradigm blindness”. Some measurements of cost and/or financial performance should also be included. We must remember that the ultimate goal is increasing profitability – not always increasing the level of production.

## ■ Production – Cost Relationships

A profit factor and variance analysis was performed to determine the advantages that the most profitable companies in the Agri Stats report have over other participants. Rankings and variances to the average company were recorded for twelve performance measurements. Totaling variances by category and expressing them as percentages identified the categories where the Top 25% held bigger advantages. This analysis revealed the following observations:

- Those companies in the Top 25% in profitability did not necessarily have the highest production numbers. They did, however, have advantages in cost.
- It was possible to rank near the bottom in key production parameters yet still be at the top of the list in profit.
- Some companies that received lower sales prices still ranked in the Top 25% in profit.
- Getting more pigs to market – whether by lower mortality or higher productivity – seemed to be the most critical production category affecting profitability.
- Mortality in Nursery/Finishing and Pre-Wean were three of the top four categories in variance advantages for the most profitable companies.
- Traditionally, popular performance measurements such as gain/d, feed conversion, number born live, pigs/mated sow /year, etc. did not show up

as top ranking advantages affecting profitability. Of course they do impact cost.

- It appeared that overcoming poor performance with lower cost was more fruitful than trying to overcome high cost with best production.

This analysis and these observations obviously reflect the findings from this data set and may not be completely applicable to all swine enterprises. No regression analysis was performed to predict top profitability factors. Likewise, no statistical analysis was done to eliminate effects of covariates and identify true sources of variance or advantages. However, the basic findings seem very logical – get more pigs to market, don't feed or house them and then let them die, and work to have lowest cost.

The fact that the number one company in profit did not rank very well in PMSY indicates other factors can greatly influence profitability. Companies with higher feed costs/ton made it in the Top 25% list by being efficient and having advantages in other areas. Again, while improving production is an important effort, it may not always be the most profitable decision. The bottom line take home message is that a swine production company or entity needs to be aware of their advantages and disadvantages so they may properly position strengths and allocate efforts for improvement.

## ■ **Canada – USA Comparison**

Much has been discussed and published recently regarding the current challenges facing the Canadian swine industry. The high value Canadian dollar compared to the low value US dollar and the change in the exchange rate obviously is an enormous issue. Other items such as prices received, shackle space availability, freight to market and component costs are also key considerations.

Agri Stats publishes Canadian and US averages on key report pages. Highlights from a CAN – US comparison are mentioned below:

- CAN had an advantage in terms of finishing market weight, gain/d and finishing mortality. Feed conversion is higher compared to that in the US.
- CAN has moved into a period of negative margins while margins in the US have tightened.
- Sales price received for CAN participants was about \$3/ckg below the US average. In Agri Stats, market freight is deducted from sales price for confidentiality. This could be a contributor to the lower CAN prices. Freight has been deducted from both CAN and US sales prices.

- Total finishing cost for CAN participants was \$5.60/kg higher.
- Pig placement cost (CAN = +\$7.54/kg), facility cost (CAN = +\$3.90/kg), milling and delivery (CAN = +\$1/kg) and farm haul (CAN = +\$1/kg) were the components contributing to higher production costs in CAN.
- CAN had advantages in feed cost (-\$6.76/kg), medication (-\$0.50/kg) and farm overhead (-\$0.60/kg) vs. the US. One may not expect a feed cost advantage for CAN. This can be explained by the geographical locations of the Agri Stats participants. CAN participants are located mostly in the western plains while US participants are located from North Carolina to California. Certain locations in the US are farther from the US Corn Belt than the CAN locations and have geographical disadvantages in ingredient purchasing.
- CAN has routinely demonstrated sow production advantages to the US (+2.8 PMSY; +0.1 LSY; +0.58 NBL; -2.35 %PWM) though weaned pig cost historically is higher (\$5/pig for September 2007).
- The sow farm effect on weaned pig cost was higher in CAN (+\$2.36/pig) for the twelve month period ending September and is trending higher (+\$3.17 current month). Sow farm cost advantage in the US increased from a -\$0.24/pig effect on cost for the twelve month period to -\$0.31 for the current month.
- The CAN production advantage reduced weaned pig cost in the twelve month period by -\$2.86/pig. That advantage shrank to -\$0.22 /pig in the month of September 2007. The effect on cost of lower production in the US changed from +\$0.28/pig in the twelve month period to +\$0.09/pig in September.
- Sow cost per weaned pig was \$1.87 higher in CAN for September 2007 and recent months.
- CAN semen cost is trending higher and has become a disadvantage relative to the US.
- Feed cost per weaned pig has typically been about \$2 lower in CAN when compared to all areas of the US.
- Facility cost in CAN has historically been higher than the US although the disadvantage for CAN is increasing (\$0.50 to \$2/pig).

## ■ Conclusion

Current challenges facing the Canadian swine industry do not appear to be improving as evidenced by increasing cost disadvantages compared to the US. Canadian participants achieve higher production levels than their

counterparts in the US but are more severely challenged with higher costs. Recent trends indicate the production gap may be reducing. This primarily is due to declines in Canadian production at the same time as US numbers have improved.

As demonstrated earlier, higher production levels do not guarantee lower costs. Swine production companies need to be able to measure their strengths and advantages in order to focus efforts on lowering costs and improving profitability.

Benchmarking is an effective tool for identification of strengths and opportunities as well as measuring progress and trends. Each swine production company should be participating in some type of benchmarking. To gain maximum benefit, production, cost and financial performance should all be part of the benchmarking program.

## ■ Reference

Zimmerman, J. 2003. *Accounting for Decision Making and Control*, Fourth Edition, McGraw-Hill Higher Education, New York, New York