

# TOP 10 PROFIT DRIVERS IN U.S. PORK PRODUCTION

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## ABSTRACT

As I view them, the top 10 profit drivers in the U.S. Pork Industry are: 1) cost of production; 2) productivity and throughput; 3) structure of your marketing program; 4) genetic supply; 5) sustainability of your system; 6) quality of labour force; 7) outside forces (animal welfare, environment, etc.); 8) production system design and flow; 9) access to information and knowledge; and 10) continually challenging the system.

## INTRODUCTION

Compiling a list of 10 top profit drivers is an interesting experience. If you asked every producer and industry advisor in the U.S. to compile their top 10 list, I doubt that you would ever get two lists that are identical. I asked several people for their top 10 list and will include a few of my favourite responses before providing my composite list. Some of the responses only listed 4 or 5 main profit drivers while others listed 10 drivers, but many of the drivers could have been subheadings of the main drivers.

**Favourite Response 1:** This was my favourite “inside the farm gate” response.

1. Weight of top hogs (excluding cull weight) sold/sow/year (essentially a measure of a system’s throughput of quality product)
2. Feed ingredient procurement.
3. Feed manufacturing and delivery costs (“Appropriate” & Real-Time Formulation)
4. Carcass value - Genetic potential for carcass value.
5. Marketing agreement. (i.e. how you are paid & constraints or lack there of in how your product generates value including carcass windows, sort loss, other premium structures or fixed premium arrangements, etc.)
6. Debt load and overhead costs
7. Marketing product to maximise system margin per year. (i.e. optimising potential of marketing agreement, sale weights, etc.)
8. Operating cost management:
  - a. Utilisation of nutrients (feed) delivered to the farm.
  - b. Facility costs per pounds sold.
  - c. Labour cost per pounds sold.
9. System location
  - a. Proximity to slaughter
  - b. Proximity to feedstuffs
  - c. Proximity to other pigs
10. System design (i.e. production flow)

**Favourite Response 2:** This respondent listed some “inside the farm gate” issues and several “outside the farm gate” factors that could influence whether you are in business or not in the future.

1. Low cost producer -- two major factors influencing this are (a) efficient use of fixed assets (i.e. facility throughput) and (b) maximise production efficiency (i.e. p/s/y, f/g, etc.).
2. Labour availability
3. Environment -- cost of compliance will continue to increase but also legal costs associated with lawsuits, etc.
4. Public perception -- if the groups that are preparing to start filing lawsuits against all “pig factories” are successful, this could have a big impact on long run profitability for the industry.
5. Animal welfare – move to outlaw gestation crates and/or farrowing crates could greatly reduce potential for future profit in industry
6. Health/diseases -- obviously I’m not a vet so the other guys will tell you what is important here, but the fact that there always seems to be something “new” popping up will continue to make this an important issue.
7. Bio-security -- this will be an issue for health reasons at the production level but also increasing food safety concerns will lead to “trace back” requirements so producers will need to have a tight control of this area.
8. Information/knowledge -- we are increasingly seeing how large crop and livestock farms gain advantages when buying inputs and selling crops which is do to both economies of size but also knowing the right people and having more/better information.

**Favourite Response 3:** This was my personnel manager response.

1. Good people - find them, retain them.
2. Cheap feed, fed properly
3. No PRRS
4. Sharing information (i.e. records, marketing, etc.) so you know if you are competitive

**Favourite Response 4:** An excellent “What is not important!” response

Listing the top 10 profit drivers is a tough topic! I might take a bit different tack and try to list some things that producers erroneously believe to be important and are not. Once you know the NOT list, flip it over and you have 10 of the top profit drivers.

Top NON-profit drivers:

1. Growth promoters in feed in the finisher
2. Holding pigs until all reach some specific break point on weight to minimise sort loss
3. Confusing risk management of marketing with profit assurance
4. Using heaps of vaccine in the belief that it is ‘insurance’ somehow
5. Buying on personal relationship bases rather than market price discovery (especially feed)
6. Borrowing money from vendors (i.e. feed, equipment, veterinarians, etc.) through various accounting methods or just charge accounts

7. Hiring and firing at will because anybody can work in a pig barn

**Favourite response 5:** I call this the accountant response.

1. Feed cost
2. Feed cost
3. Feed cost
4. Feed cost
5. Feed cost
6. Feed cost
7. Facility cost
8. Facility cost
9. Labour cost
10. All other costs

These responses all provide different, but excellent thought provoking ideas on the most important profit drivers in the U.S. Industry. Several common themes can be found in all lists and are the cornerstones of the top profit drivers (in my opinion). In reality, a great portion of the difference in profitability between different production systems can be explained by the difference in cost of production and throughput (The top 2 profit drivers in my list presented below). Most of the other 8 items on my list are support items to allow you to attain low cost of production and high throughput.

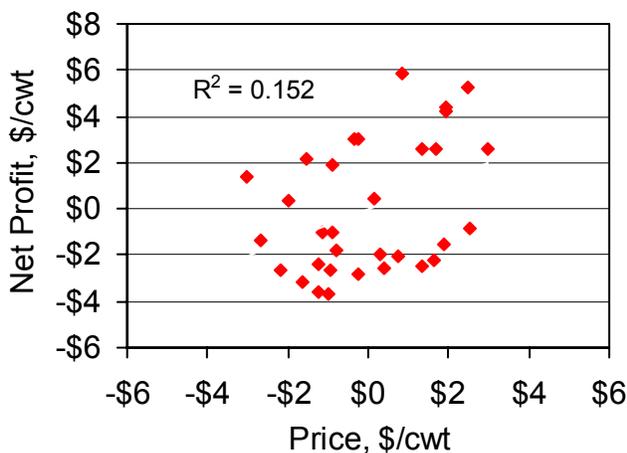
- 1) You must be a low cost producer (attack costs vigorously)
- 2) You have to be good at pig production (throughput)
- 3) Structure of your marketing program
- 4) Genetic supply (health/disease susceptibility/carcass value/meat quality)
- 5) Your system must be sustainable (part of a system, facilities, markets, not overly dependent on outside capital, etc.)
- 6) People need to like working for you
- 7) Outside forces (animal welfare, environment, etc.)
- 8) Production system design and flow
- 9) Information/knowledge
- 10) Challenge the system – be an early adopter of technology

## **WHAT ABOUT MARKET PRICE?**

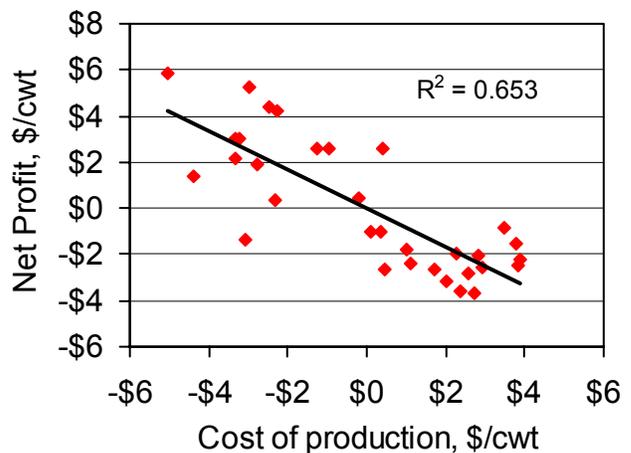
### **“What about market price? Isn’t it becoming more important than cost of production?”**

The answer is NO! Market price has received considerable attention in the last few years and rightfully so. I don’t have to remind anybody that we recently experienced the lowest prices in 60 years; however, has cost of production or market price been the long-term winner? To help answer this question, my colleague, Dr. Steve Dritz, evaluated Agrimetric summaries to compare the impact that market price or cost of production has on net profit. Agrimetrix is a business firm that conducts cost analysis for many of the major pork producing companies in the U.S. to allow them to compare their costs with other producers in the group. The results of Steve’s analyses are shown in Figures 1 and 2. Market price only explained 15% of the

difference in net profit between the firms for the 2-year period of the analysis. Cost of production explained 65% of the difference in net return. Analysis by agricultural economists of several other data sets (Iowa Enterprise records, Kansas Farm Management Data) reveals similar results: Cost of production is king. This does not mean that market price is not important. The relative importance of market price depends on your equity position. Several studies have demonstrated that use of futures or packer contracts to control the price received for your pigs will not increase the long-term price. If this is the case, why do some producers need contracts and futures? If a producer does not maintain a great enough equity position that they have leeway to allow loans when prices are low, they must protect themselves from down markets with contracts or through the futures market. The exact level of equity needed to allow a producer to ride through lows in the market may be variable, but is probably in excess of 50%. Two important points should be made about protecting prices with futures or a packer contract. First, your goal should not be an attempt to increase market price. Rather, you should be using the protection to limit losses. The second point is do not base your decision on whether to use price protection on another producers decision. The other producer may have an entirely different equity level, risk tolerance, and lender agreement. Your decision has to be made considering the facts surrounding your business.



**Figure 1. Relationship between market price and net profit.**



**Figure 2. Relationship between cost of production and net profit.**

If people are better able to separate their product from the competition and create a higher value product, price received may rise in importance in the future. This day will probably come. However, systems that are trying to capture higher value still have to prove their ability to do so. The important point to remember is: while striving for higher prices is don't forget that you still need to be a low cost producer

## **REASONS FOR MY TOP TEN PROFIT DRIVERS**

### **1. Cost of production**

The importance of cost of production has been downplayed in recent years with increased discussion about market price, packer contracts, pork quality, and retail value. Some leading advisors to the swine industry have discussed that continual focus on costs alone will lead to a spiralling down in the producers share of the retail value of pork. Also, products are often sold with the notion that they will increase cost slightly, but will enhance returns thus increasing net profit. Certainly, these technologies can exist. For example, we have added fat to some swine diets in the field to increase daily gain, market weight, and, thus, market value. At the same time, feed cost and cost of gain also can increase slightly, but not as great as the market value. These examples do exist, but they are few and far between. Approach offers of enhanced return with slightly higher cost with great scepticism. Usually, cost is increased with insufficient return to offset the higher costs. Bottom line is that lower cost has almost always won in the past and will continue to separate the profitability of producers in the future.

The steps to take in lowering cost of production sound rather simple, but many producers do not follow them to the degree necessary. First, every cost must be clearly and accurately documented. Second, the costs need to be benchmarked against others in the industry. Third, each cost centre must be fully explored for ways of reducing expense. Obviously, the items that have the greatest opportunity for increased profit should be attacked first. Remember the “accountant” response (Favourite response 5) listed above when tackling cost. Feed cost is approximately 60% of cost of production, facility cost is 20%, labour cost is 10%, and everything else is the remaining 10%. Because other costs are only 10% doesn't mean they are not important, just keep these percentages in mind when deciding where to spend your greatest energy.

### **2. Throughput**

Another major point to make concerning lowering cost is productivity or throughput. In the modern swine industry, it is virtually impossible to reach a low cost of production without excellent productivity. Increasing productivity spreads the fixed costs over more pigs or pounds to lower per unit cost of production.

You have to be careful not to focus too much on a single measure of throughput or productivity. Focusing on a single measurement, like pigs/sow/year, can lead you to make decisions that reduce the overall profitability of your swine operation. For example, selling low productivity sows or those with a late return to estrus will increase your pigs/sow/year; however, total pigs produced from the system will also be reduced if you do not have another sow or gilt ready and able to replace them in the production flow. So, what is the best way to measure throughput on a whole farm basis? The answer to this question will depend on the type of production system. For example, if you produce weaned pigs as part of a system, the answer is probably not number of total pigs produced in the year, but rather a measure of the consistency of production of high quality pigs (i.e. > 3.6 or 4 kg without defect).

With any measure of productivity, you have to closely consider any increased cost that comes with the increased production. Although productivity is very important, spending extra money

in an attempt to increase productivity should be done with great care and consideration. However, for many production systems, increased throughput can be found without a lot of extra cost. An example is finishing barn utilisation. In the U.S., we have some production systems that market pigs from the finishing barn over an extended period of time in order to minimise sort loss and increase gross value of their pigs. The problem is that this will reduce the total pounds of pork produced by the production system. Producers forget that the goal is not to minimise sort loss, but to maximise profit from the production system.

### **3. Structure of your marketing program**

The allowable weight window, cost of sort loss for heavy and light pigs, method of determining base price, and how premiums or discounts are applied all have a major impact on profitability. If the allowable weight window is wide, the number of pulls needed from a finishing barn is greatly reduced and the total weight marketed out of the barn is increased. The cost of sort loss also alters the marketing scheme. If sort loss is very expensive for light pigs, market weights are increased and an alternative market must be found for the slow growing pigs. If sort loss is expensive for the heavy pigs, total weight marketed from the barn is reduced because pigs have to be sold lighter. If sort loss is expensive on both ends, your competitiveness compared to another producer with a wide sort window can be severely hindered because it will force reduced throughput for your facilities because you will have to market over an extended period of time. The method for determining base price is a big concern in the U.S. at the current time. The proportion of pigs being priced on a formula based on some open market continues to increase. The problem is that the number of pigs that are actually sold on the open market continues to decrease. On some days, a small number of pigs sold on the open market will determine the value of all the other pigs being purchased on that same day. Some producer groups determine their price based on the average of prices paid during the previous week. Some smaller producers have really used this to their advantage and pushed marketings forward in a declining market and by holding pigs for an extra week during a rising market. Finally, the applicable premiums and discounts can have a big impact on decisions made in the production system. For example, some of our largest producers have contracts with their packer to sell pigs on a live weight basis. While you can argue that the packer knows the quality of their pigs well enough that they don't have to waste the time and money in determining all of the carcass parameters on these pigs, it greatly changes the decisions made by the production system. If these systems are examining a nutrient change or production decision that would increase carcass yield or improve backfat, their decision is much different than if they were being paid on a carcass weight basis or subject to premiums or discounts for backfat.

### **4. Genetic supply**

The genetic supply is key for two very important reasons. First, genetics set the baseline for production (ADG, F/G, pigs/sow/year, etc.) and carcass parameters (backfat, loin area, yield, meat quality, etc.). For example, if two boar lines produce offspring with a 6% difference in ADG and 5% difference in F/G, the profitability of the production system is greatly altered. Unfortunately, few of our producers have the necessary data to analyse various boar lines and make an informed decision.

The other reason that genetic supply is important is that most diseases introduced into the herd come from upstream sources through their genetic supplier. Sure there are other methods of disease transmission, but vertical transmission of disease from the genetic supplier is the predominant way that new diseases find their way into a production system. The genetics also dictate the relative response of the pig when presented with a disease.

## **5. Sustainability of your system**

By sustainability, I am referring to your ability to adapt to changes in market conditions, packer matrixes, feed prices, or other factors. As an example, if you are highly leveraged without a packer contract, your farm probably won't have the capital necessary to weather an extended period of low market prices (like the fall of 1998). Do you have the type of facilities that will allow you to adapt to future changes in the industry that are hard to predict. For example, if you had to produce antibiotic free pigs, would your facilities and production flow allow you to do this? Does your production flow allow you to apply new technology as it is introduced? If a new product was introduced to the market that increased net profit by \$3 per pig when fed for only the last three weeks before market, would you be able to do this in your system or do the number of feed lines or groups of pigs in your facility limit your ability to capture all of the profit? A few of our producers have recently discovered that they are at an economic disadvantage because their system will not allow them to capture the value of Paylean, a beta-agonist recently introduced to the market in the U.S.

Another part of sustainability is whether you are part of a system. It is difficult to achieve some of the advantages of size to low costs and negotiate prices without being part of a system or part of several systems. Numerous examples could be given, but I will use one of our producers in Kansas as my example of somebody that leverages system involvement as an individual, relatively small producer. This individual owns one of eight shares in a sow unit in order to receive 600 weaned pigs every eight weeks. Joining this system allowed him enough scale to achieve all-in, all-out production, split sex feeding, phase feeding, and enough pigs to market semi-loads at market. This system also allows him to compare his production numbers to others in the group for continued improvement. The second system that he joined was to purchase inputs, which gave him the necessary scale to lower his costs. The third system that he joined was a marketing group that has negotiated a higher base price and bigger sort window than he was previously receiving on his own.

## **6. Labour**

Many producers remaining in the swine industry are large enough that they have to rely heavily on hired labour. The importance of a high quality labour force cannot be over-emphasised. Many of the points that have been made above concerning throughput and low cost of production are not achievable without a high quality labour force. Because unemployment is low for much of North America and employees are difficult to find, you have to develop a reputation as the type of farm where people like to work. A good reputation is necessary to attract high quality employees and to retain them once they are on the job.

## **7. Outside forces can have a major impact on your profitability in the future**

Although we often want everything to be under our control, some things are not. The swine industry is facing some very serious issues from outside forces that will impact your profitability and may dictate whether or not you stay in production in the future. A major change in animal care regulations (e.g. banning of gestation crates) may require changes that are not economically feasible or practical for your current production system. The cost of environmental compliance due to real or perceived problems also will cause some producers to exit the industry. The precaution that we must take as producers in the swine industry is to adhere to the highest standards possible concerning animal welfare and the environment to reduce the potential reasons for new regulations.

## **8. Production system design and flow**

The reason that the design of the production system is important is because it dictates the ability of the system to adopt technology, achieve high throughput, and manage disease problems. For example, can you adopt simple technologies like split sex or phase feeding. For larger systems, advantages can be gained by filling sites or barns with a single sex in order to have the gilts on feed for 7 to 14 days longer than the barrows without sacrificing barn utilisation. The design of the system also influences the amount of disease that is transferred from one group of pigs to the next and your ability to remove a disease from the production system without excess expense.

## **9. Information and knowledge**

The quality of information collected within your production system and your access to information and knowledge from others is a major driver of profitability. High quality information is essential to quantify your costs and throughput. Access to numbers from others is essential to know which of your cost or productivity measures need to improve. Also, as a greater and greater portion of practical, production research is being conducted on a confidential basis, your ability to access the information becomes key. The information can be accessed in two ways. First, many producers have joined systems that support their own production research. Second, either yourself or somebody else in your system has to build the relationships with people in other systems to share information. One of the reasons that some people don't have access to proprietary information is that they are not seen as having anything to reciprocate in exchange.

## **10. Challenge the system**

The most profitable producers or production systems that I know are always challenging conventional wisdom. Instead of just accepting their current costs or productivity, they are always exploring new ways to improve their situation. They challenge themselves and their employees to continually review all procedures and to scrutinise all costs for new ways to increase profitability or to improve their employees' and animals' environment.