Survival Strategies – When Every Penny Counts

Prairie Swine Centre

Introduction

It is a significant challenge to suggest how a Canadian pork producer in today's economic environment can turn a loss into a profit. Indeed the "perfect storm" of pork prices impacted by global challenges have made losses of $20-$40/hog this spring. It is the intent of this paper to reinforce production practices backed by research and actual commercial practice that can produce savings of not just $2-3 per market animal but multiples of that. Too often do we hear "I am doing everything possible already" in reference to cutting costs. Production systems are living entities with fluctuations in productivity, management and staff that are overwhelmed with daily distractions, and in-barn procedures which evolve whether you want them to or not.

There are opportunities, and every dollar saved is one less dollar borrowed under the present conditions. The following is a checklist to take to the barn and help you evaluate where the opportunities exist in your operation.

The focus is on the cost areas with the greatest potential for payback for the efforts invested. These are in order of importance and relative size of annual expenditure: feed (52.7%), wages & benefits 11.2%, and utilities & fuel 4.7%. These three account for nearly 70% of all expenditures on a typical farm in western Canada. So our approach to addressing costs will be confined to these areas.

Feeding Program

This begins with defining the objective of the feeding program that can be any one of the six objectives in Figure 1. The purpose of defining the program makes it possible for the nutritionist to assist in diet formulation and ingredient selection to achieve that end. The first opportunity for cost reduction is - Are we formulating to minimize operational

losses? This includes a review of selecting optimum energy levels, defining lysine:energy ratios, define other amino acid levels to lysine, setting mineral levels (even withdrawing in late stage finisher diets) and making use of opportunity ingredients. The outcome should be a feed budget similar to Figure 2. The regular matching of actual feed usage by diet type to the budget is the exercise in Figure 3 that shows that after a five-month period in fact this 600 sow farrow-to-finish farm had excessive use of some of the most expensive diets on the farm and resulted in an average cost increase of almost $6 per market hog. But the owner thought they were doing "everything they could" because a competitive feed budget was developed. The problem was not the budget but the fact it was not being adhered to for any number of reasons. Perhaps as simple as not explaining to the person making or delivering the feed that the number of pigs in the nursery was below budget, in this case because of a PCVAD outbreak.

Other aspects of the feeding program that you need to evaluate include the energy content of the final diets and implementing the Net Energy system, seeking to further increase savings by crediting the most accurate energy value available to each ingredient.

Reformulating frequently is important when commodity prices move up or down. The general 'rule of thumb' is to reformulate whenever the main grain and protein ingredients move by a pre-determined amount (for example $5-10 per metric tonne).

Alternative feed ingredients at times can be the single largest opportunity to reduce feed costs. This includes co-products of the ethanol, bakery and food processing industry but also includes common ingredients like corn. Currently in western Canadian diets implementing a change from wheat to corn could save as much as $4-5/pig marketed depending on your local cost of wheat.

Once you have formulated diets, there are still opportunities to reduce costs by observing particle size stays within the 650-700 micron range to ensure optimum digestibility. Frequently due to screen wear, improper screen size, or hammer wear, the feeds milled on farm are significantly over the 700 micron threshold (surveys show a range of particle size 700-900 microns Figure 4). For every 100 microns under 700 the feed conversion improves 1.2%. With feed costs today of at least $90 per finished hog, moving from say a 3.0 F/G to a 2.96 F/G (the effect of 1.2% improvement, or 100-micron reduction in feed particle size) is worth $1.00 per pig marketed.

Please view our industry publications on our website www.prairieswine.ca for more tips like:

- Moving from 2 phases to 4 phase feeding programs can easily save $1-2/pig
- Use of phytase and reduction of dicalcium phosphate in diet has saved $0.50 per pig or more under some market conditions

Marketing

Which is more important - breeding sows or shipping pigs? Although the question is not which is more important it does point to the two areas where our people have a significant impact in our success as a production unit. Figure 5 shows one farm's analysis of how management and labour have to respond when market conditions change. The most profitable hog, in terms of weight will change across time-period - dependent on your average hog and feed prices. Once the new target is established, consistently hitting the target is important.

Utilities

Utilities are the third largest expense in pork production after feed and labour. This cost area has seen significant increases across Canada in recent years. The Centre did extensive analysis on the effect of ventilation rate, and set point temperature adjustments that can save on energy costs. At the time we found losses of $1 per pig marketed were likely when a finishing barn was over-ventilated by just 10% in the winter. As electricity prices continue to rise, our opportunity for savings of up to $3 per hog marketed is possible by ensuring our ventilation systems are performing properly

An extensive analysis of utility costs was undertaken in a variety of barns across Saskatchewan. The results reported in Figure 6 show that the range of energy use is four fold across various farrow-to-finish operations. Although disappointing for those farms at the high end it does indicate that there is significant opportunity to reduce costs incurred for utilities at least $3-5 per pig marketed. Some of the differences contributing to these vast differences in cost include:

- Limit use of heat lamps in farrowing and move to heat mats
- Move from incandescent to CFL or LED bulbs
- Reduce the number of hours of light or amount of light in nursery and grow finish rooms
- Select replacement fans based on energy efficiency.

Most farms do not receive a water bill but waste here also contributes to farm costs. Scientific and industry surveys both point to the fact that about 40% of the water delivered to the nipple is wasted. This wasted water ends up as slurry and increases our manure hauling costs by at least $0.70 per pig. The things to look for:

- In a recent survey 20-70% of nipples provided flow rates in excess of recommendations. This excess water is beyond the pigs capacity to consume it resulting in higher waste.
- Water disappearance is 34% less on wet/dry feeders compared to dry feeders and wall mount nipples.
- Nipples installed at 90o to the wall should be located at shoulder height, nipples located 45o to the wall should be located 2 inches above the shoulder (a well-positioned nipple will reduce water wastage to 25% of total volume delivered).
- Replacing nipple drinkers with swing drinkers, bit-ball nipples or bowls have shown to decrease wastage.

Productivity

When prices are low and losses are high, it is easy to turn our attention away from the demanding management of sow reproduction, "so what if we wean a few less pigs, they are not worth anything any way". However, each pig contributes to carrying the overhead of all those fixed costs our barns incur, assuming we are meeting our variable costs of production. In fact, outside of feed and transportation, you can classify the rest of the costs as fixed. Therefore, the impact of sow productivity is profound.

Conclusions

There are opportunities for savings on every farm in Canada. Finding these savings takes a methodical and careful process of comparing our targets to what we are actually achieving - doing this on a regular basis will frequently find opportunities to save. Perhaps savings of $7-9/hog are possible. These savings do not all exist on all farms but some of these exist on some farms and it is our job to find them and correct them. Then next month look again and find those that escaped our gaze the first time, and be committed to doing it repeatedly as we work to maintain margins in a challenging commodity market.

Survival Checklist

1. Feeding program objectives must be clearly defined; objectives can and indeed will change over time.
2. Selecting the correct dietary energy concentration can lower costs by $1 - $13 per pig.
3. Adoption of Net Energy system of diet formulation can reduce feed costs by $1 and $5 per pig.
4. Aggressive adoption of a variety of ingredients can reduce feed costs by up to $5 per pig.
5. Regular re-formulation of diets can reduce feed costs by $3 to $4 per pig.
6. Track implementation of feed budget can reduce costs by $5 per pig.
7. Cost of particle size deviation from target can exceed $1 per pig.
8. Ensure you maximize your margin over feed cost for your grading grid and current feed budget.
9. Operating procedures and equipment can both contribute to excess power consumption. Turn lights off, switch to heat mats and reduce heatlamp use.
10. Improper minimum ventilation (10% above requirement) adds up to $3 per pig
11. On average 40% of water delivered to the nipple is wasted, that is an additional $.70/pig in slurry hauling costs.

Figure 1. Objectives of the feeding program

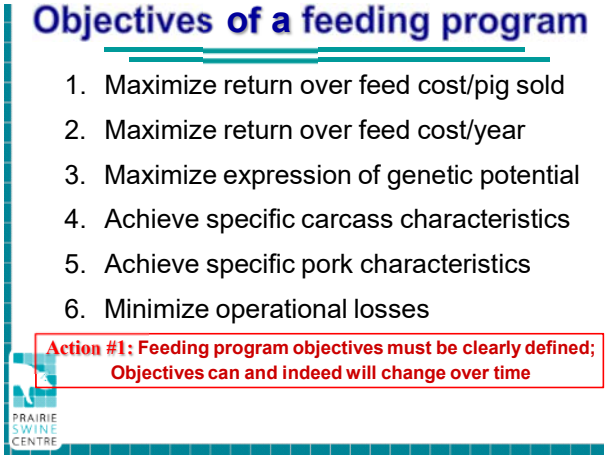
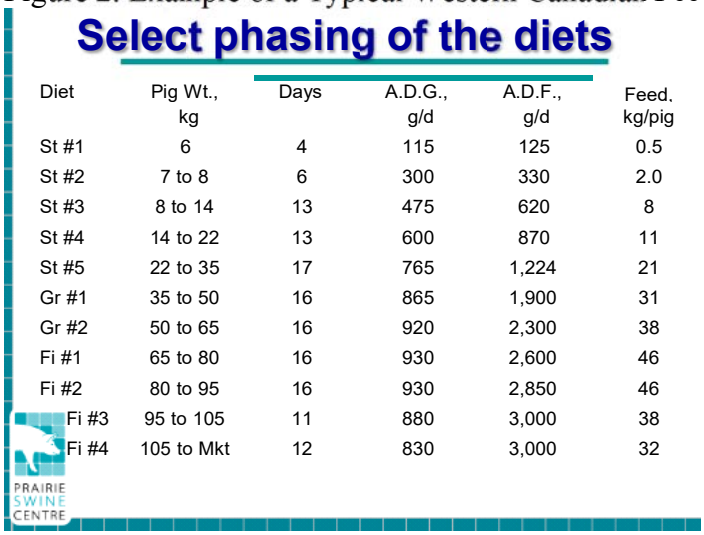
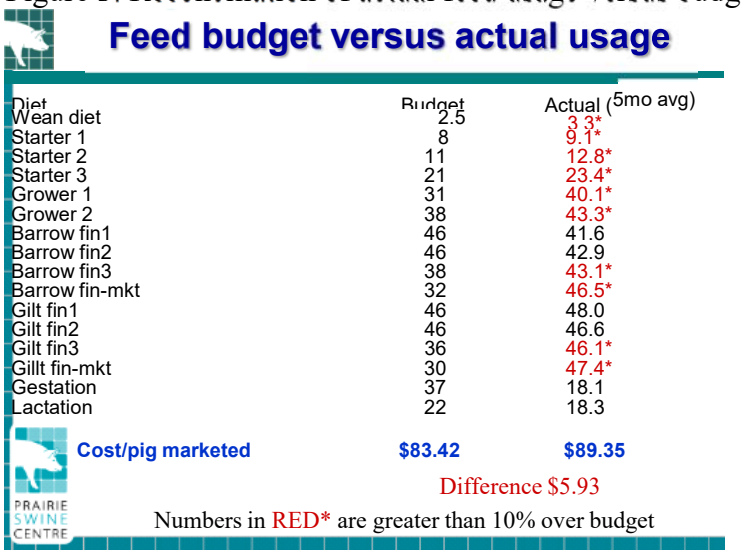


Figure 2. Example of a Typical Western Canadian Feed Budget



Diet	Pig Wt., kg	Days	A.D.G., g/d	A.D.F., g/d	Feed, kg/pig
St #1	6	4	115	125	0.5
St #2	7 to 8	6	300	330	2.0
St #3	8 to 14	13	475	620	8
St #4	14 to 22	13	600	870	11
St #5	22 to 35	17	765	1,224	21
Gr #1	35 to 50	16	865	1,900	31
Gr #2	50 to 65	16	920	2,300	38
Fi #1	65 to 80	16	930	2,600	46
Fi #2	80 to 95	16	930	2,850	46
Fi #3	95 to 105	11	880	3,000	38
Fi #4	105 to Mkt	12	830	3,000	32

Figure 3. Reconciliation of actual feed usage versus budget

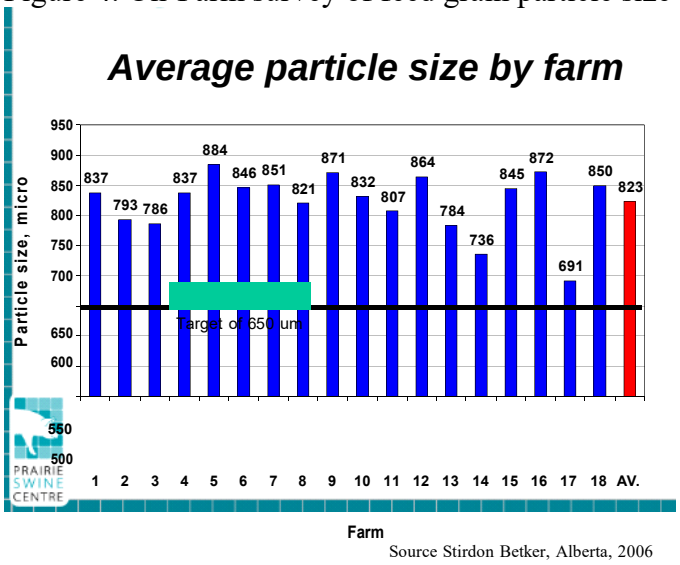


Diet	Budget	Actual (5mo avg)
Wean diet	2.5	3.3*
Starter 1	8	9.1*
Starter 2	11	12.8*
Starter 3	21	23.4*
Grower 1	31	40.1*
Grower 2	38	43.3*
Barrow fin1	46	41.6
Barrow fin2	46	42.9
Barrow fin3	38	43.1*
Barrow fin-mkt	32	46.5*
Gilt fin1	46	48.0
Gilt fin2	46	46.6
Gilt fin3	36	46.1*
Gillt fin-mkt	30	47.4*
Gestation	37	18.1
Lactation	22	18.3
Cost/pig marketed	**$83.42**	**$89.35**

Difference $5.93

Numbers in RED* are greater than 10% over budget

Figure 4. On-Farm survey of feed grain particle size



Source Stirdon Betker, Alberta, 2006

Figure 5 On farms analysis of carcass weight relative to returns at two time periods

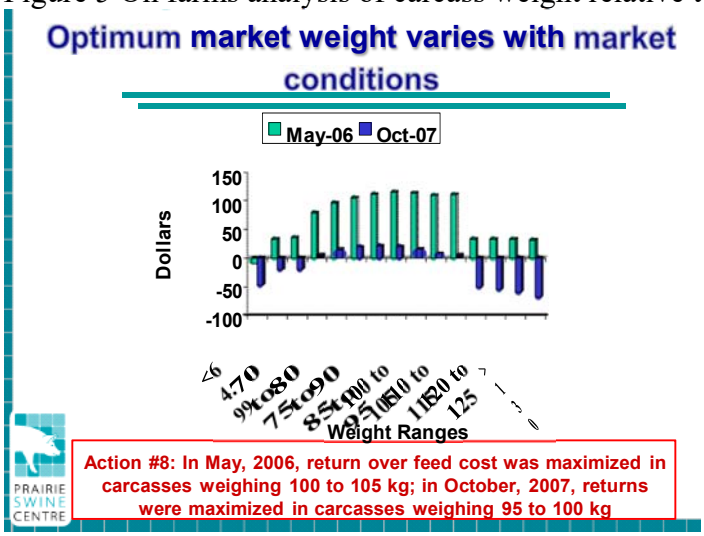
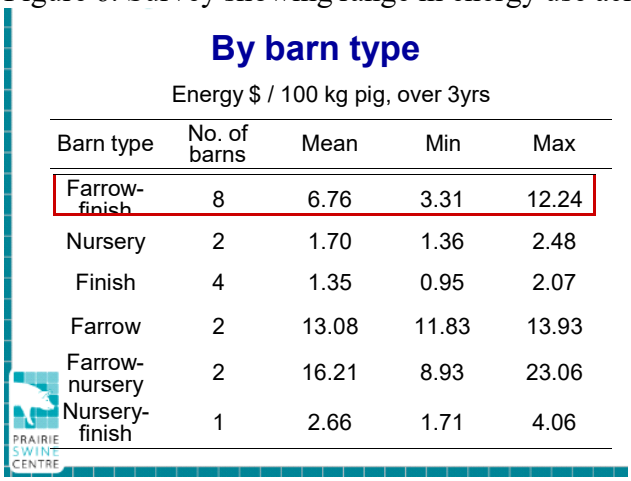


Figure 6. Survey showing range in energy use across farm types



Barn type	No. of barns	Mean	Min	Max
Farrow-finish	8	6.76	3.31	12.24
Nursery	2	1.70	1.36	2.48
Finish	4	1.35	0.95	2.07
Farrow	2	13.08	11.83	13.93
Farrow-nursery	2	16.21	8.93	23.06
Nursery-finish	1	2.66	1.71	4.06