

Improving the Balance Sheet

Rick Dehod (AARD) was speaking to the topic of "Managing Financial Risk on the Hog Farm" and addressed the financial stability within the pork industry. At the end of the presentation the inevitable question was asked. "How long before financial institutions start looking favourably at the pork industry?" The answer at that time that was a minimum of another 12 months of profit would need to be realized before bankers would give serious consideration to the pork industry. Producers have a good handle on what their individual financial situation looks like today, and based on expected future returns, how many additional months will be required to backfill the equity loss since 2007. However the same statement can't be broadly applied to financial agencies, governments or perhaps service providing industries. How is it, an industry can go from record losses to record profits within a few short years.

The past twenty years in the Canadian hog industry has been a wild ride. 1995 was the beginning of roughly ten years of unprecedented growth where we saw sow numbers increase close to 50%. Sure, there was the price adjustment of late 1998 – early 1999 that dampened some enthusiasm, but low grain prices throughout this period kept producers aware of the long term opportunity within the pork industry. What transpired next I don't believe anyone could have possibly imagined: Circo virus, avian/swine influenza, exchange rate, country of origin labelling, ethanol policy, drought, and record feed costs. A once strong and vibrant industry was hit with ten years of meeting new challenges, ones that resulted in 25% decline in sow numbers since 2005 and left the producers still in the industry wondering if the light at the end of the tunnel would ever arrive. The first glimmer of hope was seen in 2011.



Hog prices started showing some recovery, and that along with moderate feed prices created something some producers hadn't seen since 2006: PROFIT. While not large it created a sense of cautious optimism within the industry. According to the USDA-ERS about 80% of agricultural land experienced drought in 2012, making it more extensive than any drought since the 1950's. The resulting drought saw feed prices increase by 30-50% in a mere two months, once again pulling all the profit out of the industry. What a difference a year can make! In late 2013 the stars appeared to be aligning for the pork industry. A record (large) harvest met with production losses associated with PEDv, and strong product demand and saw profits once again return to the industry; profits at levels which many producers have never experienced.

Any industry that achieves record profits soon expands; basic economics. While the latest USA Pigs and Hogs Report shows a 2% increase in the U.S. breeding herd, the general sense in Canada is we are being more cautious. While profits are nice, everyone realizes the Canadian pork industry has dug itself a huge equity hole since 2007. So the question in the industry in December 2014 becomes; "How many more months of profitability does the industry need to replace the lost equity?" In short, an average producer needs 12 more months of profitability to fill in that hole.

While profit is largely dependant on individual producers cost structures, productivity and risk management aversion. Producers need a non-biased tool to help them in the decision making process on where and how much can we re-invest in our operations to better position them for future success.



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Assessment Checklist



On the third week of March 2014 pork producers saw something they had never seen before – individual pigs sold for more than \$300 each. The fact that this coincided with moderating grain prices meant that margins had never been better in recent memory (last 7 years). Now what? Although there is plenty of debt to soak up these margins, there is a noticeable change in perceptions on the future of the pork industry. A new future could be imagined that included facility and equipment renewal. Over the next 2 years there will be plans and purchase decisions made to address pent up demand by facilities and their managers to address the repair and maintenance concerns of pig barns. Nationally we have an aging 'fleet' of barns, with the last big building effort concentrated between 1991 and 1998; these barns have seen more than half their productive life, even with good maintenance. This is complicated by the fact the maintenance and repairs over the past 7 years have been well below the level required to keep the 'fleet' in tip top shape. Some barns have passed their 'best before date', but for those barns we want to remain operational for the next 20 years we need to consider reinvestment. The challenge, there are many demands and few resources so how do you decide where the first dollar should be spent?

It would be nice to "have an app for that" but the complex considerations of capital vs operational investments, people vs infrastructure, and short-term vs long-term return on investment make analysis of this 'apples and oranges' comparison very challenging. We challenged ourselves to consider what kind of a tool might assist in making these decisions logical and a good contributor to profitability. We also saw this challenge of barn reinvestment choices being influenced by personal preference, and rather than money spent being a positive influence on future cash flow and profitability, they could be simply expenditures on 'my favourite things'.

Here is a checklist approach to making objective barn investment decisions. We considered a simple approach using a combination of perceived risk of not making a change in each area, and the impact of a worst case scenario if catastrophic failure of that overlooked area was to occur. Our suggestion is you take a walk around and through the entire barn; you may want to have someone accompany you since perception of risk and impact is subjective and the exercise could benefit from a second opinion. You will also want to take a few tools with you to poke and prod and assess equipment and structure. This is where the title of this article comes in, "Shining a light..." is a direct reference to your need to have a high intensity flashlight with you to inspect below slats, in attics and behind pillars and equipment. We recommend at least 200 ft candle power (as little as \$50) and better yet 800 ft candle lights, an inexpensive investment that will bolster your judgment with greater clarity in important areas such as assessing concrete cracks and rafter strength. The other tools you will need include a ladder tall enough to allow you to get on the roof, a small ladder in the barn for accessing attic hatches, and in the tool belt a screwdriver and knife for scrapping and digging, perhaps a can of fluorescent paint to mark areas for re-inspection in the future.

The following Risk Assessment Checklist looks at four areas of consideration (Biosecurity, Structural, Utilities, Operational), certainly more could have been added but in balancing the need for brevity and ease of use against being all encompassing we opted for a quick tool that will reveal the areas of greatest need and allow you to pursue an action plan or seek professional structural or other engineering and construction advice. A special note regarding safety for people working in barns; the structural and utility sections of the checklist identify safety considerations, for example marked exits, emergency egress exits and fire separation to increase time to exit the building, these may not have been part of the original barn plan but should be considered essential upgrades as we evaluate our barn structures.

A special thanks to *Murray Elliot, of FGC Limited (Stratford, Ontario) for his valued input into this project.*

Area	Description of area observed	Risk scale 1-5	Impact of failure on farm net income 1-5	Avoidance of risk, best return score
Biosecurity				
STRUCTURAL	Cracks in foundation wall			
	Insulation, studs, vapour barrier			
	OUTSIDE			
	Pit walls			
	Eaves, soffit, fascia			
	Roof steel, seams, screws			
	Floors, cracking and heaving			
	Slats, cracks (along length or across slat)			
	Under the slat in high use areas			
	INSIDE			
Farrowing and nursery floors				
Suspended floor supports				
Ceilings plywood, PVC liners				
Interior perimeters moisture migration				
UTILITIES				
Electrical service connection to barn				
Emergency generator exhaust vent				
OUTSIDE				
Fire department access road around structure				
Water supply for fire fighting				
Exit doors and emergency egress openings clear of obstacles and functional				
Gas lines painted yellow, and other utilities clearly marked				
INSIDE				
Fire detection/alarm system (tested)				
Fire extinguishers in all passageways that lead to exits (tested annually)				
OPERATIONAL				
Gravel building perimeter; control of weeds, placement of rodent control				
Sewer vent pipes clear of debris				
OUTSIDE				
Manure pump out access covers solid and secured				
Feed bins stable and secure, boot bottoms				
Feed bins stable and secure, boot bottoms				
Equipment tied to the floor				
INSIDE				
Sow stalls, feeders				
Other				

- Perimeter (walk the barn)**
- check for cracks in foundation wall, hairline cracks are expected, larger cracks need further investigation
 - stud walls can be inspected by removing fasteners and looking at the condition of insulation, studs and vapour barrier
 - check the manure pit access, this is will give the best view of visible pit walls, do not enter pit
 - check eaves, this is where ventilation air enters barn, eave doors should be intact, soffit and fascia can be checked

Check roof

- climb on roof and check steel condition, watch for rust at seams, popped screws and pay special attention to valleys and any chimney or pipes that penetrate roof steel, note placement on roof so that when inspecting attic these areas can be targeted from the inside

Enter barn and check floors and slats

- when checking slats look for surface cracking, cracks or pops along the length of the slat mean rebar has been exposed to manure and is rusting, cracks across the slat is of more immediately danger and slat could collapse with warning
- check the bottom of the slats in 10 high use areas, slats will often show wear under slat first, this will show as concrete blown off the bottom side of slat, if this occurs slats are of no value
- check solid hallways for cracking, minor cracking in these areas is expected, look for unusual amounts of cracking that could be caused by frost penetration

Check equipment tied to floors

- areas where equipment such as dry sow stalls, feeders, farrowing floors are attached to floors are high wear areas
- use screw driver and scrape until metal is uncovered, this will give some indication of required maintenance
- farrowing and nursery floors are self supporting, check beams or framework to insure stability
- any plastic coated expanded metals should be inspected for cracking, even hairline cracks means life of product is greatly diminished

Ceilings

- a variety of products are possible on ceilings, the most common are plywood and PVC liners
- pay particular attention around the interior perimeter, moisture entering from eaves will cause deterioration around perimeter first
- check integrity of plywood ceiling with a knife, wood should not be punky and should be difficult to penetrate with a knife
- PVC ceilings will not show this wear but check to make sure strapping above this product is sound, again in a few suspect locations pierce the PVC and check for soundness of strapping

Load bearing walls

- not all barns have load bearing walls but any structure over 80' will almost always have trusses (even structures as narrow as 50' could have load bearing walls) supported in the interior of the barn, these may be steel posts, concrete walls or stud walls usually on a concrete curb, these supports hold up a split truss and are extremely important
- if the structure has steel posts look for rusting especially at the base, again scrape away any surface rust until good steel is found, there should be very little deterioration or an engineer should be consulted
- if concrete look for cracking, hairline cracks are expected
- if wood, expose some of the stud wall and inspected for damage

Attics

- this area tends to be the most neglected area of a structure so pay special attention
- trusses are normally spaced at 48" centers, you cannot step on any area except the bottom cord of a truss or you may fall through the ceiling
- any roof leaks will be obvious from the condition of the insulation, blown insulation should appear fluffy and evenly spread, any discoloration or sagging is a roof leak, every steel roof will have a few leaks (these should be repaired) but the important points are how much and how long, any leaks will have caused some deterioration to ceiling, bottom cords and truss plates, the amount and duration of these leaks will be directly related to the amount of damage, minor damage is not significant but if the bottom cord is punky or the truss plates corroded and engineer should do further assessment, again scraping rust looking for good metal in plates and penetrating wood trusses with a screwdriver will give some indication of the amount of damage
- pay special attention around the perimeter of the roof as this is where snow has most likely entered the attic
- truss plates should be closely looked at, they should appear shiny and basically look like new, any rusting on truss plates is an issue that can cause roof collapse
- if there is no cladding under the roof steel such as tentest or vinyl back insulation holes in the attic will be obvious when you shut off the flashlight
- if the roof steel has under cladding of tentest this product sags easily if wet so roof leaks are again fairly obvious
- if the roof has vinyl back insulation this is more difficult, water will run down the vinyl until it finds an exit so where you see insulation damage the leak may be higher up the roof