

# Pork Production for Fun and Profit Or Knowing Your Cost of Production and Why It Matters

Frank Novak, Sunhaven Farms

Ben Woolley, Sunterra Farms



# Outline

- Part One
  - Let's Talk Efficiency
  - Financial Structure of Hog Production Units
  - A Hog Production Budget (Where did all the money go?)
  - Why Should I Care? Or How do I Affect Things While in the Barn?
- Part Two
  - Why Decision Making in Isolation May Not Make Sense
  - Impacts Of Production Decisions on Profit

# Efficiency Measures

- Production Efficiency
  - PigChamp Measures  
(pps/yr, feed conversion, ADG.)
- Economic Efficiency
  - Financial Statement Measures  
(return on assets, return on equity, cash flow)

# Economic Efficiency Explained

- Profitability (ROA) = Volume x Margin
- Volume = dollars of revenue per dollar of capital invested
- Margin = percentage of revenue left over as profit
- **Profitability depends on how many dollars you can generate and how much you spend to generate them**

# Business Volume & Margin

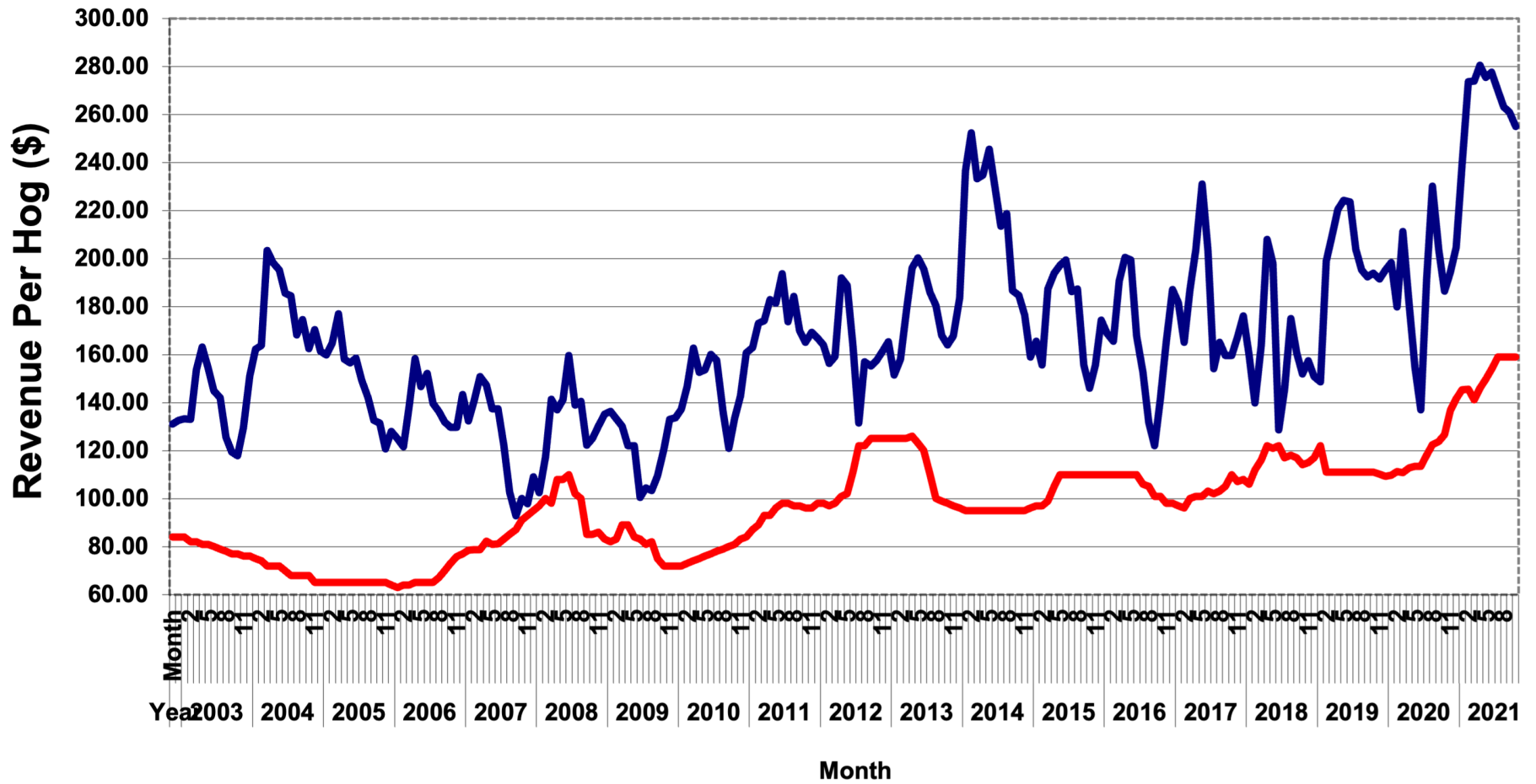
## 2500 Sow System

- Volume  
 $= \$18\text{M (Revenue)} / \$25\text{M (Assets)} = .72$
- Margin =  $\$4\text{M} / \$25\text{M} = .160$
- Profitability (ROA) =  $.72 \times .160 = 11.52\%$

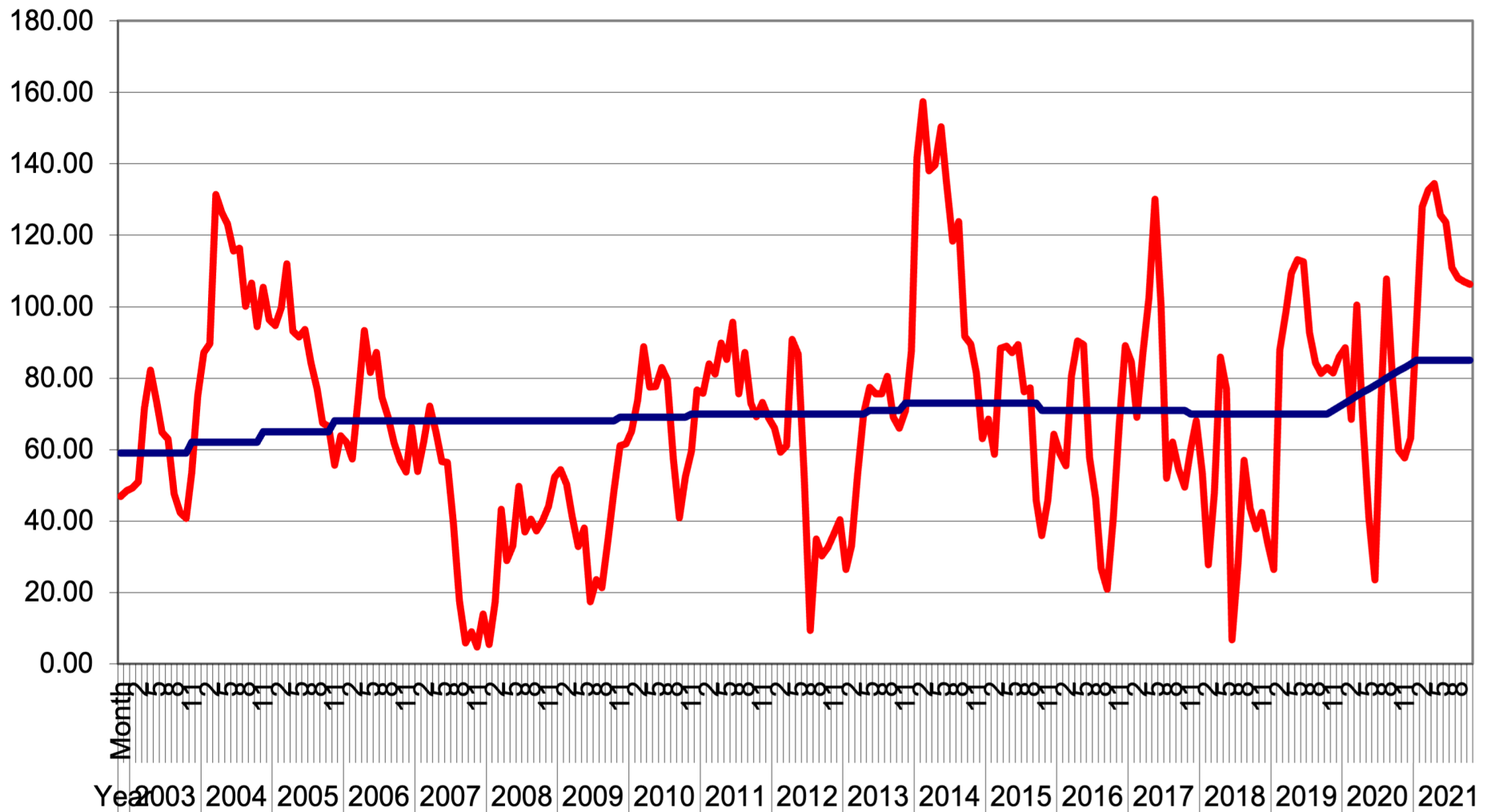
# Financial Structure of Hog Production Units Summarized

- Capital Intensive
- High Volume, Low Margin Businesses
- Volatile Markets & Cash Flows

## Hog Revenue & Feed Cost (2003-2021)



## Margin Over Feed Cost (2003-2021)





# So Where Did All The Money Go?

- A look at a representative hog production budget
- How sensitive are profits to various production / cost factors?
- When “good enough” isn’t

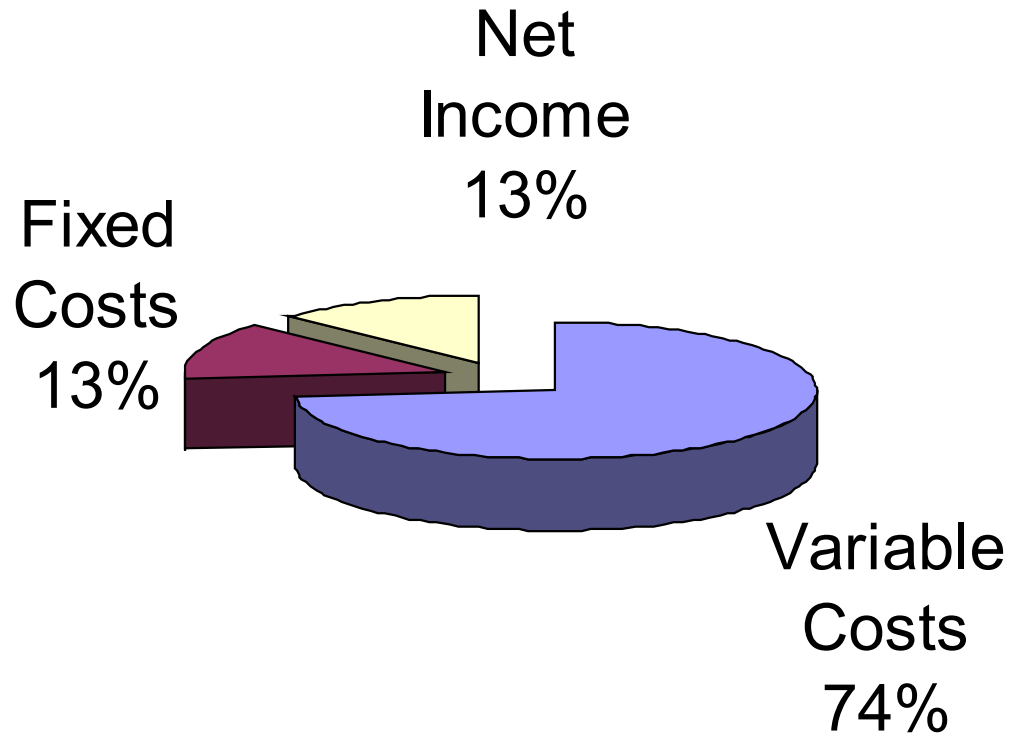
# The Hog Farm

- 2500 sows farrow to finish
- Capital cost - \$10,000 per sow (\$25M)
- Above Average Productivity
  - 29 pps/yr weaned; 3.2 FC
- Average Debt Levels

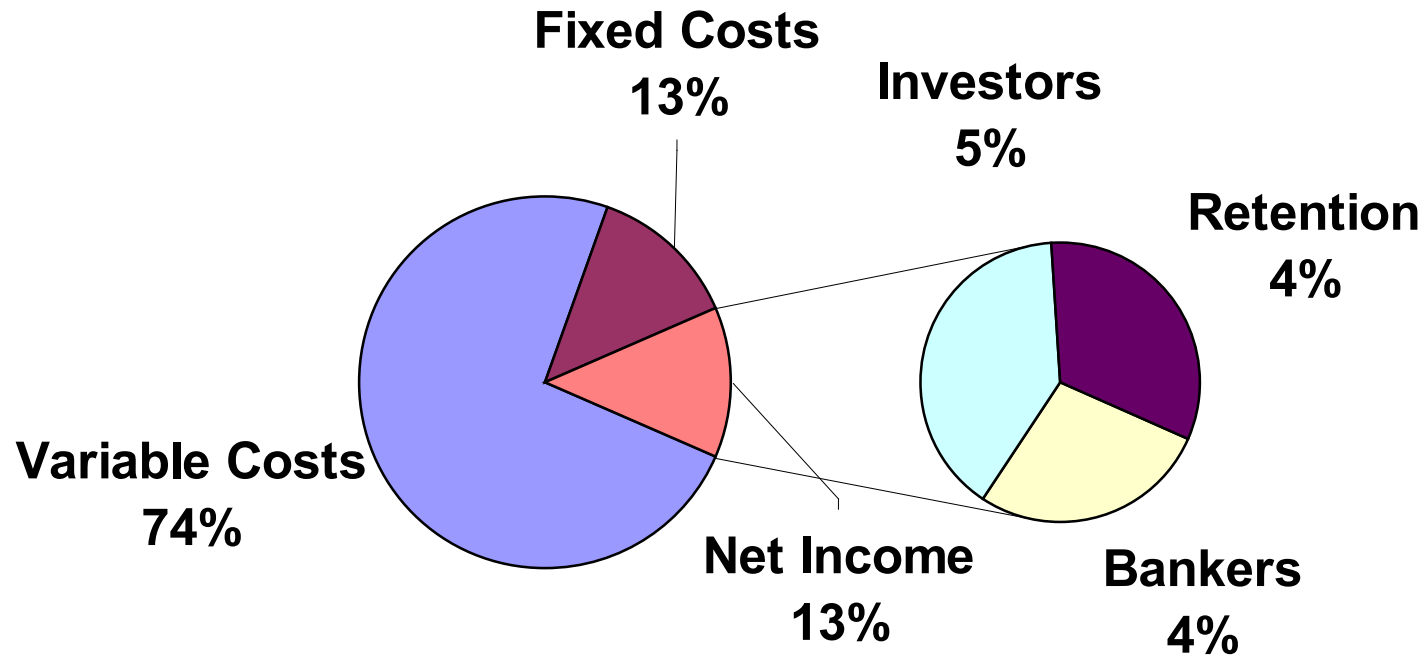
## 2500 Sow F-F Farm Budget

	Total	Per Pig
Total Revenue	\$ 18,125,000	\$ 250.00
Total Variable Costs	\$ 15,225,000	\$ 210.00
Contribution Margin	\$ 2,900,000	\$ 40.00
Total Fixed Costs	\$ 1,450,000	\$ 20.00
Net Income	\$ 1,450,000	\$ 20.00

# Distribution of Total Revenue



# Distribution of Net Income



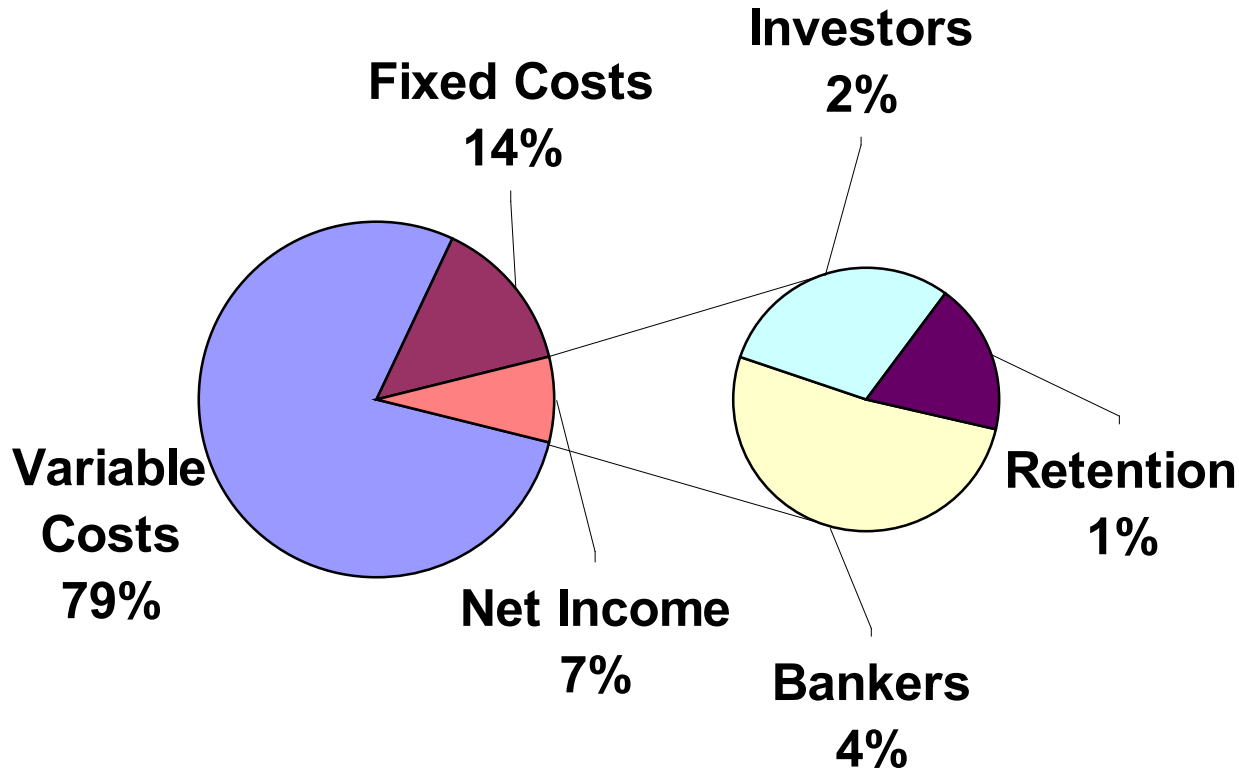
# So What About “Good Enough”

- Physical Production Efficiency Has a Major Impact on Economic Efficiency
- What If I Miss My Targets By A Little Bit?
- What If Everyone in the System Misses By Just a Little Bit?

# Comparison Of Top 10% To a Farm That is "Off" by 10%

Variable	Top 10%	10% Off
Replacement	45	55
Farrow Rate	90	80
Born Alive	10.5	10
PWM	9	10
Nursery Mort.	1	2
G-F Mort.	2	3
Average Index	111	110
Whole Herd FC	3.2	3.4

# Losing a "Small" piece of the PIE





**Take Home Message Version One**

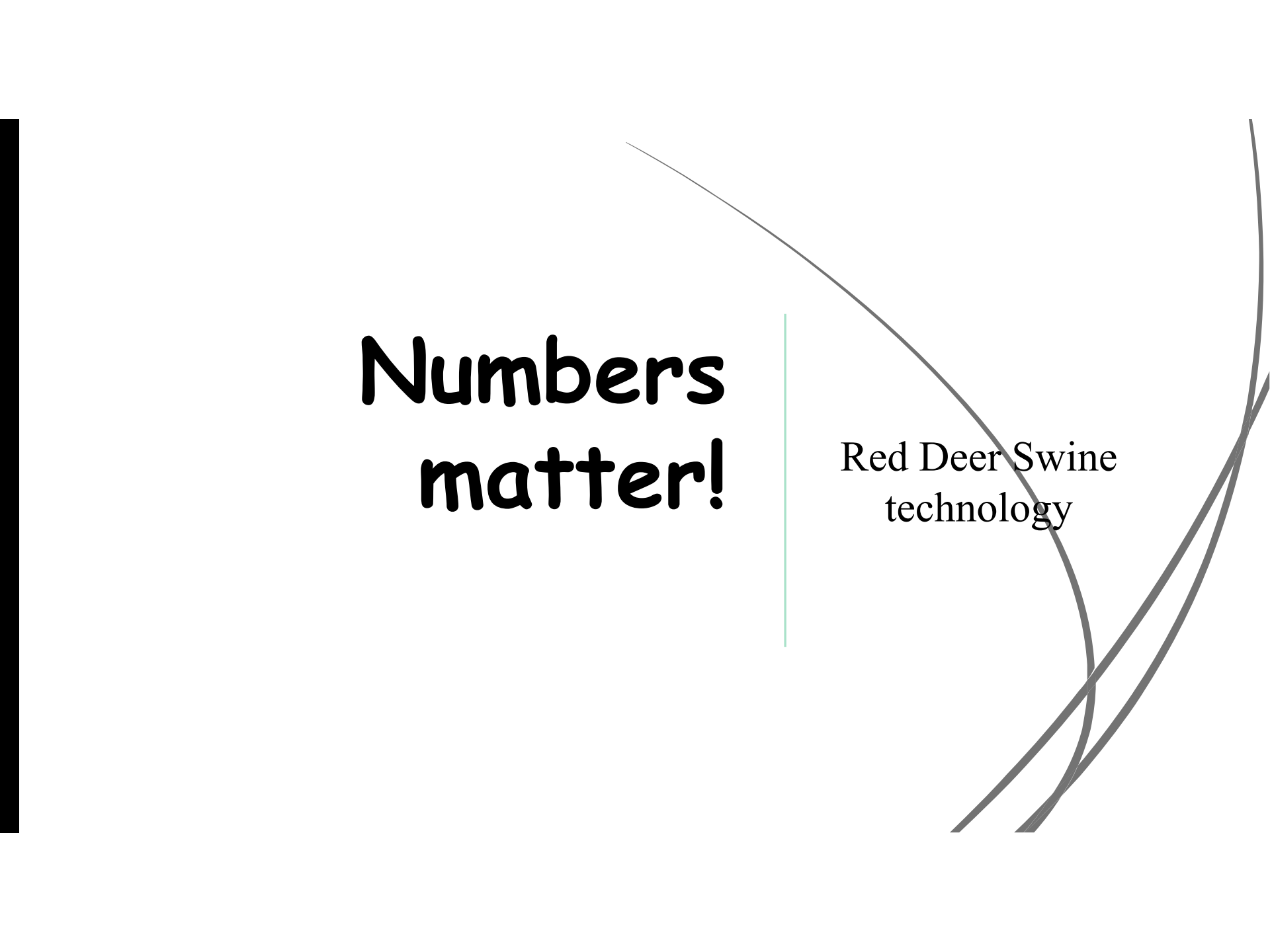
**Never Try To Teach A Pig To Sing**

**It Wastes Your Time And It Annoys  
The Pig**



# Take Home Message

- Economists Are Dull People!!!
- We Are High Volume Narrow Margin Players
- Sweating The Details Matter



# Numbers matter!

Red Deer Swine  
technology

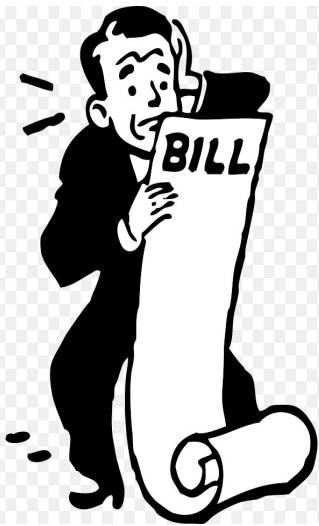
# Cost of production

	Exchange	\$ 1.37
<u>Cost of production</u>		
	<u>Cd\$</u>	<u>US\$</u>
COP sow farms	\$ 57.34	\$ 41.85
Freight to US		\$ 3.94
Nursery feed		\$ 10.75
Nursery rent		\$ 6.15
Finisher feed		\$ 92.50
Finisher rent		\$ 16.15
N&F other costs		\$ 3.19
Management fee		\$ 4.00
Freight to slaughter		\$ 12.18
Total cost		\$ <b>190.71 US</b>
Cost per dressed lb	213.75	\$ <b>0.89</b>

# **What impact do production changes make?**

- 5% sows under farrowed than target. (5% less pigs)
- 5% more sows farrowed than target (5% more pigs)
- 1% increase in mortality in finisher
- 0.2 increase in Feed Conversion
- 5 kg drop in slaughter weights

# Weaned pig cost



		<u>Total costs</u>	<u>Fixed costs</u>
Feed Purchases*	Fixed	25.90	\$ 25.90
Breeding stock	Fixed	8.04	\$ 8.04
Wages*	Fixed	8.77	\$ 8.77
Semen Purchases	Fixed	1.27	\$ 1.27
Medication	Fixed	0.95	\$ 0.95
Vaccines Sow	Fixed	0.65	\$ 0.65
<b>Vaccines Piglets</b>	<b>Variable</b>	<b>1.31</b>	<b>\$ -</b>
Supplies	Fixed	1.14	\$ 1.14
Repair & Maintenance	Fixed	1.07	\$ 1.07
Repair & Maintenance Wages	Fixed	0.26	\$ 0.26
Electricity	Fixed	1.87	\$ 1.87
Nat Gas - Heat	Fixed	0.38	\$ 0.38
Communication	Fixed	0.10	\$ 0.10
Vet/CFIA/Export	Fixed	0.64	\$ 0.64
Pig Transport	Fixed	0.06	\$ 0.06
Manure Disposal Expense	Fixed	0.06	\$ 0.06
Dead Stock	Fixed	0.09	\$ 0.09
Consulting/ Vet Testing	Fixed	0.38	\$ 0.38
Pig Records expense	Fixed	0.11	\$ 0.11
Training/Travel/Recruitment	Fixed	0.05	\$ 0.05
Other Expenses	Fixed	0.00	\$ -
<b>Contract Management Fees</b>	<b>Variable</b>	<b>3.00</b>	<b>\$ -</b>
Insurance Expense	Fixed	0.77	\$ 0.77
Property Tax	Fixed	0.07	\$ 0.07
Employee Appreciation	Fixed	0.02	\$ 0.02
Depreciation*	Fixed	0.39	\$ 0.39
		<b>\$ 57.34</b>	<b>\$ 53.03</b>

# 5% less pigs (Under farrow)

## 5% drop in pigs weaned

Cost of production out of sow unit					\$	57.34	
Fixed cost					\$	53.03	
5% drop in pigs weaned =					\$	2.65	per pig
2500 sows	weaning	29	psy =	72,500	\$	192,220.21	total

Assume a dressed price of \$0.95				on a carcass weight of 214 lbs (106 kg)			
The profit/loss on those pigs is:				\$0.06 per dressed lb			
3625	pigs X	\$	12.84	=	\$	46,545.00	US\$
				or	\$	63,301.20	Cdn\$
Total				\$ 255,521.41			

# 5% more pigs weaned above target

5% more pigs weaned						
	Cost of production out of sow unit				\$ 57.34	
	Fixed cost				\$ 53.03	
	5% increase in pigs weaned =				-\$ 2.65	per pig
2500 sows	weaning	29	psy =	72,500	<b>-\$ 192,220.21</b>	total
However, you will reduce weights by about 0.5 kg (1lb) per pig (KSU)						
We estimate a 0.5 kg drop in wean weight costs:						
\$ 1.31	in the nursery in lower performance in all pigs					
\$ 2.03	in the finishers in lost revenue with fixed spaces					
\$ 3.34	X a total of	72,500	=	<u>\$ 241,914.41</u>	increased cost	
				<b>Total</b>	<b>\$ 49,694.20</b>	

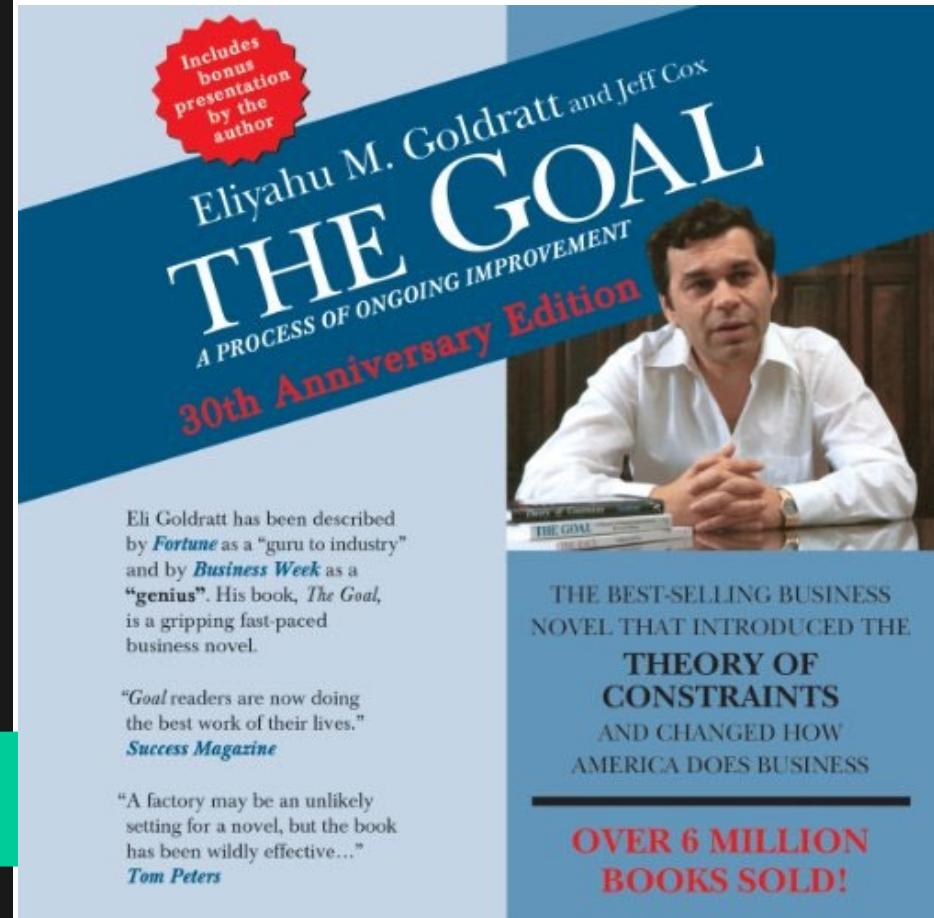


# More is not always good!

- Savings from lower weaned pig cost:  
\$192,000
- Added cost in the nurseries and finishers:  
\$241,914
- So the extra pigs cost you \$49,694!
- Beware of false economies.

# So produce the RIGHT number of pigs

Read the book  
“The Goal” by Eliyahu M. Goldratt



# 1% increase in mortality in finisher

## Assume mortality occurs halfway through the finisher

		Weaned pig cost		\$	41.85 US	
		Nursery cost	Feed	\$	10.75	
			Housing	\$	6.15	
		Finisher cost	Feed	\$	46.25	½ cost
			Housing	\$	8.08	
			Other costs	\$	3.19	
		Total cost/dead pig		\$	116.27	
Total cost per year						
72,500pigs	Assume a 4% finisher mortality					
725more deads (1%) =				\$	84,292.93	US\$
				\$	115,481.32	Cdn\$
			OR	\$	1.66	per pig sold

# 0.2 increase in finisher FCR



Total finisher feed per pig sold		
	2.8 Feed conversion =	
In weight	25	kg
Sale weight	<u>133</u>	kg
Weight gain	108	kg
Feed used	303	kg
Ave ration cost	\$ 418.00	per tonne
0.2 increase in FCR =	6.06	kg
	\$ 2.53	per pig
	or \$ 176,401.20	Total

Drop  
slaughter  
weights  
by 5 kg  
Assume  
133 kg  
sale  
weight

5kg drop in slaughter weights	(\$0.95 per lb dressed)	
Revenue per slaughter pig	\$ 278.52	Cdn \$
Revenue per live kg	<u>\$ 2.09</u>	
Loss of 5 kg revenue	<u>\$ 10.46</u>	<u>per hog</u>
Variable costs for 5kg gain		
Feed	\$ 6.28	3.0 FCR
Housing	\$ 0.75	15 cents per day
Other costs (trucking etc)	<u>\$ 0.50</u>	
	<u>\$ 7.53</u>	
Net cost of missing weights by 5 kg	<b>\$ 2.93</b>	<b>per hog</b>

# Pay attention!!

Production numbers  
matter!

Modest Fails in  
Mortality, ADG and  
F:G = loss of \$7.12  
Per Pig or \$516,200



Well in our defence we DID get the numbers right. They  
were just in the wrong order!

**What Keeps People Like Ben and Frank Up At Night?**

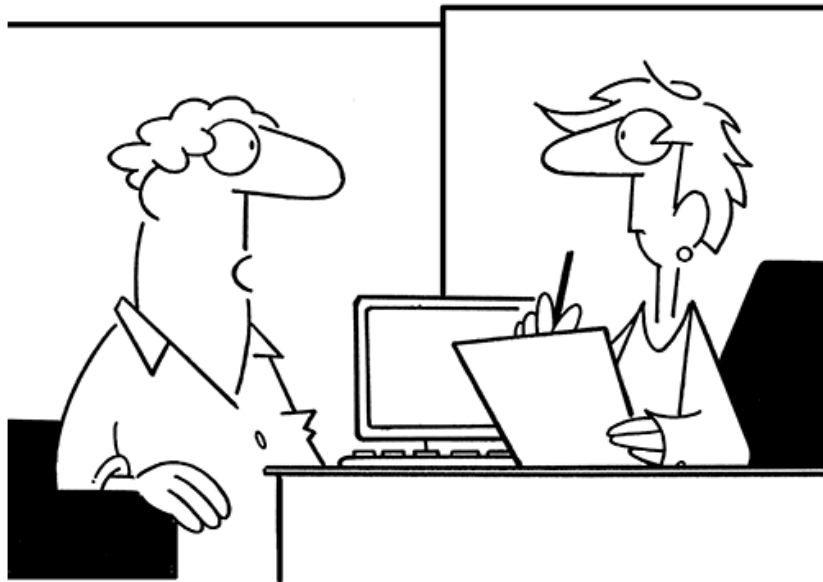
**Our Markets Are Volatile and Our Industry Margins Are Small**

**The Business Owners get What's Left After Everyone Else Is Paid**

**Understanding The Impact Of Management Decisions on Profitability Is Critical For Good Decision Making**

# Thank you

## Investments and Retirement Planning



**“All of my money is tied up in futures —  
next month’s rent payment, next week’s**