


Calculating Production Costs to Determine Your Bottom Line

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Starting Point: Goal is to Make a Profit

- Pork production can be a very **enjoyable** career
- But we live in a 'capitalist' society, we **still have to support our family**
- This requires, over a period of time, that pork production **makes a profit**
- History has shown that Iowa is a great place to raise pigs and prosper


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Pork Production has Changed Over the Past Years

- At one time, the pork producer ran a diversified business (**multiple crops, multiple livestock species**) and could just focus on raising pigs and crops
- Now, all of agriculture, all businesses have changed
- "Wal-Mart" effect


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Pork Production has Changed Over the Past Years

- Consumer demands an **acceptable quality** commodity product, at the **lowest price**
- So as price lowers, the pork producer has taken the brunt of the effect
- Smaller profit margins per unit of production have demanded the need for **more business skills and orientation**


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Effect on Pork Production (and Pork Producers)

- If the **profit per pig is smaller**, then the **production unit must be larger** to generate the **same profit** for the producer
- The producer must also be more 'efficient' at pork production
- Specialization can enhance efficiency
- Result = shift away from diversified farms

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New Demands on Pork Producer

- Larger size to capture efficiencies
- More specialized production skills
- More management skills (now manage people and pigs)
- More business orientation
- Use of computer technology
- Need for software to manage the farm, manage the business, for decision making and analysis

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Today's Discussion

- Focus on **cost of production components** that influence profit
- Also, consider the production **performance** of the farm (higher performance lowers per unit cost)
- Package this so the producer can apply their **'farm specific'** information so analysis and decisions can apply better

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Cost of Production Comes From Multiple Components

- **Feed costs:**
 - *function of feed price, feed conversion, pigs marketed/year, mortality rate, growth rate,*
- **Non-feed costs:**
 - *Fixed (facilities, etc), Variable (ins., util., supplies, repairs, taxes, etc), Professional fees (mgt, acct.), Vet/Medicine, Labor, Breeding/Genetic costs, death losses, Trucking, and more*

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How Do You Measure ?

- **Feed costs:** *function of feed price, feed usage, feed conversion, and pigs marketed/sow/year*
 - *Business records, computerized sow management systems and spreadsheets*
- **Non-feed costs:** *Labor, Fixed (facilities, etc), Variable (ins., util., supplies, repairs, taxes, etc), Professional fees (mgt, acct.), Vet/Medicine, Breeding/Genetic costs, death losses, Trucking, and more*
 - *Business records*

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Bottom Line

- In order for the producer to objectively examine their cost of production and performance,
- You must have these records in a usable format
- And access to 'decision making' tools that allow for farm specificity


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Pig Profit Tracker Pig COP/Profit Estimator

- Excel spreadsheet
- Enter production information
 - Farrowing from sow management system
 - Post-weaning from spreadsheet summary
- Enter cost of production estimates for primary component of costs (per pig)
- Enter feed component prices of interest
- Enter anticipated market return
- Program estimates the net profit/loss per pig
- Can change inputs to see impact on net profit

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Inputs From Records



Pig Profit Tracker

Breed - Finish v.3.0

Farm Scenario:

**Pigs farrowed
April 2008**

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Inputs				
Comp price (\$/bu)	5.00	Weaning wt. (lb)	13	Litters/sow/year
SEM (\$/ton)	350.00	Sale/marketing wt. (lb)	270	Pigs weaned/litter
VTM (\$/ton)	624.00	Wean - Finish F:G (lb, live)	2.85	Replacement cost (\$/pig)
Additive (\$/lb)	2.00	Wean - Finish mortality (%)	8.00	Cull sow sale weight (lb)
Carcass dress (%)	74.5	Avg death loss wt. (lb)	100	Annual replacement rate (%)
				Sow mortality rate (%)

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Inputs From Records

Farrowing		\$ / pig weaned	
Gilt Dev purchase cost/female genetics			\$ 3.62
Breeding cost/ semen & boars		\$ 1.65	
Vet / Medicine		\$ 1.22	
Labor		\$ 3.90	
Fixed (building, taxes, rent, pymt etc)		\$ 2.30	
Variable (ins, util, repairs, misc.)		\$ 6.25	
Management / accounting fees		\$ 1.00	
GMD average cost per ton	(\$/ton)	12.00	\$ 0.67
Cull sow value	(\$/lb)	0.26	\$ (2.37)
Total non-feed costs			\$ 18.24

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Inputs From Records

Farrowing				
	Lact. (days)	Days/yr	Daily (lb)	Total (lb)
Lactation	19	44	12.3	537
Gestation			5.5	1766
Total >>	Sow feed per sow per year			2304
	Sow feed per pig weaned			111
	%	Lb / pig	\$ / lb	\$ / pig
Corn	71.00%	79.0	\$ 0.09	\$ 7.05
SBM	25.50%	28.4	\$ 0.18	\$ 4.97
VTM	3.30%	3.7	\$ 0.31	\$ 1.15
Additive	0.20%	0.2	\$ 2.00	\$ 0.45
Total feed cost per pig weaned				\$ 13.61
		Lb / pig	\$ / lb	\$ / pig
Prewrite Pig Feed		1	\$ 0.50	\$ 0.50
Total SEW pig feed cost				\$ 14.11

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Inputs From Records

Post-Weaning to Finish		\$ / pig	
Death loss			\$ 3.00
Vet / Medicine		\$ 2.10	
Labor		\$ 2.60	
Fixed (building, taxes, rent, pymt etc)		\$ 10.20	
Variable (ins, util, repairs, misc.)		\$ 16.75	
Management / accounting fees		\$ 1.50	
Trucking		\$ 3.00	
GMD average cost per ton	(\$/ton)	12.00	\$ 4.39
Other		\$ -	
Total non-feed costs			\$ 43.54

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Inputs From Records

Post-Weaning to Finish				
	% age	Lb / pig	\$ / lb	\$ / pig
Corn	76.58%	560.9	\$ 0.09	\$ 50.08
SBM	21.00%	153.8	\$ 0.18	\$ 26.92
VTM	2.27%	16.6	\$ 0.31	\$ 5.19
Additive	0.15%	1.1	\$ 2.00	\$ 2.20
Paylean etc. \$/hd				\$ -
Total		732.5		\$ 84.38
Cost per head-- summary breakdown				
	Farrowing		Wean-Fin	Total
Total feed cost	\$ 14.11	\$ 84.38		\$ 98.50
Total non-feed cost	\$ 18.24	\$ 43.54		\$ 61.78
Total >>	\$ 32.35	\$ 127.93		\$ 160.28

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Outputs From Spreadsheet

Miscellaneous Outputs		
Farrowing corn (bu/hd)	1.41	} 11.43
Finishing corn (bu/hd)	10.02	
Wean-finish +deads F:G (lb)	2.76	
Feed cost + deads (\$/hd/day)	2.55	
Wean-finish feed (\$/ton)	230.41	
Pre-wean feed (\$/ton)	251.35	

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Outputs From Spreadsheet

Profit/loss		
	\$/cwt carcass	per head
Income - (6-mo expected price)	\$ 67.00	\$ 134.77
Expense - Feed	\$ 48.97	\$ 98.50
- Non-feed		\$ 61.78
Total	\$ 79.68	\$ 160.28
Profit/loss	\$ (12.68)	\$ (25.51)
Profit/loss attributed to farrowing		\$ (5.15)
Profit/loss attributed to finishing		\$ (20.36)

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Scenarios To Examine Using Pig Profit Tracker®

- Current situation at your farm
- Effect of increasing reproductive rate
- Renting new facilities with higher cost, but better performance
- Raising market weight but with higher feed conversion rate
- Effect of improving a performance trait
- Effect of 'locking in' inputs and/or return

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Demonstrate Pig Profit Tracker

- Available at www.ipic.iastate.edu
- Iowa Pork Industry Center
- 800-808-7675

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Scenarios Shown in Talk

- Start with assumptions in "Estimated Returns from Farrow-Finish hogs in Iowa, born April 2008
- Use assumptions for pigs born in Jan 2009 (lower feed costs, higher market price)
- Show impact of increasing reproductive rate (20.7 PSY to 24.0 PSY)

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Scenarios Shown in Talk

- Show change if replacement gilt price was increased (\$150 to \$200)
- Show change if sow mortality increased (8 to 10%)
- Show change if annual replacement rate increased (50 to 60%)
- Show change if FCR was improved (2.85 to 2.75)

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Scenarios Shown in Talk

- Show change if producer leases older WF facilities at a lower cost (10.20 fixed to 8.20 fixed), but FCR changed from 2.75 to 2.90
- Show change if added Paylean at a cost of \$2/head, but FCR improved from 2.90 to 2.80
- Show change if WF mortality increased from 8 to 9%

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Jan 2009 farrowed example

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- ## Summary
- Producer needs to accurately know their cost of production (total + components)
 - Producer needs to accurately know their herd performance (total + components)
 - This requires a combination of records
 - Business records
 - Sow management system records
 - Post-weaning performance records
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- ## Summary
- Analysis of these records using 'decision' based software tools will allow the producer to
 - Consider different options concurrently that individually influence profit,
 - So the producer can see the impact on profit or loss
 - Accuracy of any software is dependent on the accuracy of the information used in the analysis
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