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Example Production Budgets

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Production budgets can be effective planning tools. A budget is as useful as the accuracy of the information used. Three example budgets are presented. The budgets are based on a number of assumptions shown. These examples are intended as models of a production budget. Predicted costs of production and return are only estimates. Producers should generate budgets and cost projections for their own operation for business planning purposes.

Finishing Pigs in Hoop Barns

Some niche pork producers purchase feeder pigs and feed them to market weight. Hoop barns are structures commonly used for finishing pigs. The following budget projects cost of production for finishing pigs in hoop barns. The following are assumed:

Assumptions for Finishing Pigs in Hoop Barns

Feeder pig price	$55.00/hd	Batches per hoop barn	2.5/yr
Pig start weight	40 lb	Bedding use	200 lb/pig
Pig end weight	270 lb	Price of cornstalk bedding	$30.00/ton
Overall feed:gain ratio	3.5:1	Dressing percentage	74%
Price of corn	$3.65/bu	Operating interest	8%
Price of soybean meal	$250.00/ton	Depreciation and repairs	9%
Price of base mix	$0.40/lb	Fixed interest	5%
Death loss	4%	Taxes and insurance	1%

Operating cost calculations

Feed

$$Corn: \ 634 \ lb \times \frac{1 \ bu}{56 \ lb} \times \$3.65/bu \ = \ \$41.32$$

$$SBM: \ 154 \ lb \times \frac{1 \ ton}{2000 \ lb} \times \$250/ton \ = \ \$19.25$$

$$Base \ mix: \ 18 \ lb \times \$0.40/lb \ = \ \$7.20$$

$$Feed \ Costs \ = \ \$41.32 + \ \$19.25 \ + \ \$7.20 \ = \ \$67.77$$

Bedding $\quad 200 \ lb \ cornstalks \times \frac{1 \ ton}{2000 \ lb} \times \$30.00/ton \ = \ \$3.00$

Operating interest

Operating Interest =

Operating costs excluding labor × *Annual interest rate* × *Length of production*

$$\$130.37 \times 8\%/yr \times \frac{1 \ yr}{2.5 \ turns} \ = \ \$4.17$$

Labor $0.25\ hr/pig \times \$15.00/hr = \$3.75$

Operating costs after death loss $\$138.29 \div 0.96 = \$144.05$

Fixed costs calculations

Facility and equipment investment

Hoop barn	$80.00 per pig space
Feed and manure equipment	$20.00 per pig space

$$\$100/pig\ space \times \frac{1\ pig\ space}{2.5\ turn/yr} = \$40/turn$$

Fixed Cost

Facility and equipment investment × *(Depreciation & repairs + Fixed interest + Taxes & insurance)*

$\$40.00 \times 15\% = \$6.00$

Fixed Cost after death loss $\$6.00 \div 0.96 = \$6.25$

Breakeven price calculation

$$\frac{Cost}{270\ lb} \times \frac{100\ lb}{1\ cwt} = Breakeven/cwt\ \ live\ \ weight$$

$$Breakeven/cwt\ \ live\ \ weight \div 74\% = Breakeven/cwt\ \ carcass\ \ weight$$

Example Budget for Wean–Finish Pigs in Hoop Barns

Operating Costs		
Feeder pig	$55.00	
Feed	$67.77	
Bedding	$3.00	
Fuel, repairs, and utilities	$1.05	
Veterinary and medical	$1.55	
Marketing	$2.00	
Operating interest	$4.17	
Labor	$3.75	
Total	$138.29	
Total operating costs after death loss		$144.05
Fixed Costs	$6.00	
Fixed costs after death loss		$6.25

Total costs per pig sold $150.30

Breakeven price	Live Weight	Carcass Weight
Operating costs after death loss	$53.35/cwt	$72.09/cwt
Total production costs	$55.67/cwt	$75.23/cwt

Table 1. Effect of feed:gain ratio on total production costs and break even price.

	Feed:gain ratio					
Item	3.25	3.50	3.75	4.00	4.50	5.00
Feed, $/pig	$62.92	$67.77	$72.60	$77.44	$87.12	$96.80
Operating costs after death loss, $/pig	$138.84	$144.05	$149.25	$154.45	$164.86	$175.26
Fixed costs after death losses, $/pig	$6.25	$6.25	$6.25	$6.25	$6.25	$6.25
Total costs, $/pig sold	$145.09	$150.30	$155.50	$160.70	$171.11	$181.51
Break even price						
Live, $/cwt	$53.74	$55.67	$57.59	$59.52	$63.37	$67.23
Carcass, $/cwt	$72.62	$75.23	$77.83	$80.43	$85.64	$90.85

As table 1 illustrates, feed conversion can significantly affect the cost of production and the corresponding break even price.

Producing Feeder Pigs for Niche Markets

Some producers focus on their sow herd and sell feeder pigs to others for finishing. Hoop barns with individual feeding stalls are well suited for gestating sows. An insulated, warm building is needed for farrowing pigs year-round in Iowa. The following budget projects cost of production for producing feeder pigs using a hoop barn for gestation and a well insulated building for farrowing. The following are assumed:

Assumptions for Producing Niche Market Feeder Pigs

Gestating sow feed	5 lb/d	Market value of a replacement gilt	$200/hd
Lactating sow feed	16 lb/d	Price of corn	$3.65/bu
Sow weight change	0 lb	Price of soybean meal	$250.00/ton
Litters per year	2 / sow	Price of base mix	$0.40/lb
Weaned pigs	7/ litter	Bedding use, cornstalks	1500 lb/yr
Lactation length	42 d	Bedding use, oat straw	500 lb/yr
Weaning weight	40 lb/pig	Price of cornstalks	$30.00/ton
Annual sow replacement rate	10%	Price of oat straw	$50.00/to

Operating cost calculations

Feed

$$Corn: \ 2136 \ lb \times \frac{1 \ bu}{56 \ bu} \times \$3.65/bu = \$139.22$$

$$SBM: \ 517 \ lb \times \frac{1 \ ton}{2000 \ lb} \times \$250.00/ton = \$64.63$$

$$Base \ mix: \ 96 \ lb \times \$0.40/lb = \$38.40$$

$$Feed \ Costs = \$139.22 + \$64.63 + \$38.40 = \$242.25$$

Bedding

$$Cornstalks: \ 1500 \ lb \times \frac{1 \ ton}{2000 \ lb} \times \$30.00/ton = \$22.50$$

$$Oat \ straw: \ 500 \ lb \times \frac{1 \ ton}{2000 \ lb} \times \$50.00/ton = \$12.50$$

$$Bedding \ Costs = \$22.50 + \$12.50 = \$35.00$$

Replacement gilts

$$50 \ sows \ in \ herd \times 10\% \ replacement \ rate = 5 \ gilts \ annually$$

$$5 \ gilts \times \$200.00/gilt = \$1000.00 \ replacement \ costs$$

$$\$1000.00 \div 50 \ sows = \$20.00 \ annual \ replacement \ costs \ per \ sow$$

Operating interest

Operating Interest =

Operating costs excluding labor × Annual interest rate × Length of production

$$\$341.45 \times 8\%/yr \times 1 \ yr = \$27.32$$

Labor $7.0 \ hr/sow \times \$15.00/hr = \$105.00$

Fixed costs calculations

Facility and equipment investment

Gestation hoop barn and farrowing facility

(New gestation hoop & equipment and farrowing facility / expected useful lifespan) / number of litters per sow space

$850 / 15 years = $56.67 per sow space / 2 litters per space annually = $28.33 per litter

Example Budget for Producing Niche Market Feeder Pigs

Annual Operating Costs	per sow	per litter	per pig weaned
Feed	$242.25	$121.13	$17.30
Bedding	$35.00	$17.50	$2.50
Replacement gilts	$20.00	$10.00	$1.42
Fuel, repairs, utilities	$14.40	$7.20	$1.03
Veterinary and medical	$19.80	$9.90	$1.41
Insemination supplies	$10.00	$5.00	$0.71
Operating interest	$27.32	$13.66	$1.95
Labor	$105.00	$52.50	$7.50
	$473.77	$236.89	$33.84
Fixed Costs	$56.67	$28.33	$4.05
Total	$530.44	$265.22	$37.89

Table 2. Cost per pig by number of pigs weaned per litter.

		Cost per Pig					
	1 Litter	5 pigs	6 pigs	7 pigs	8 pigs	9 pigs	10 pigs
Operating	$236.89	$47.38	$39.48	$33.84	$29.61	$26.32	$23.69
Fixed	$ 28.33	$5.67	$4.72	$4.05	$3.54	$3.15	$2.83
Total	$265.22	$53.05	$44.20	$37.89	$33.15	$29.47	$26.52

Table 2 demonstrates the impact of weaning more pigs per litter. As number of pigs weaned increases, the cost per pig drops dramatically. If feeder pig market price is $55.00 per head, the producer weaning 10 pigs per litter will receive five times the return on investment as the producer weaning 5 pigs per litter.

Farrow-to-Finish Pig Production for Niche Markets

Most niche pork producers raise pigs farrow-to-finish. The following budget shows cost of production for 1 pig using the information from the previous scenarios. The following are assumed:

Assumptions for Farrow-to-Finish Pig Production for Niche Markets

Gestating sow feed	5 lb/d	Growing pig feed:gain	3.5:1
Lactating sow feed	16 lb/d	Bedding use, cornstalks	1500 lb/sow
Sow body weight change	0	Bedding use, oat straw	500 lb/sow
Litters per year	2 /sow	Bedding use, cornstalks	200 lb/pig
Annual sow replacement rate	10%	Price of cornstalk bedding	$30.00/ton
Market value of replacement gilt	$200	Price of oat straw bedding	$50.00/ton
Pigs weaned	7/litter	Weaning weight	40 lb/pig
Lactation length	42 d	Market weight	270 lb/pig
Price of corn	3.65/bu	Post-weaning death loss	4%
Price of soybean meal	$250.00/ton	Batches per hoop barn	2.5/yr
Price of base mix	$0.40/lb	Dressing percentage	74%

Example Budget for Farrow-to-Finish Pig Production for Niche Markets

Operating Costs			
Sow feed	$17.30		
Pig feed	$67.77		
Bedding	$5.50		
Replacement gilts	$1.42		
Insemination supplies	$0.71		
Fuel, repairs, utilities	$2.08		
Veterinary and medical	$2.96		
Marketing	$2.00		
Operating interest	$6.12		
Labor	$11.25		
	$117.11		
Post-weaning death loss	$5.76		
Fixed Costs	$10.05		
Post-weaning death loss	$0.25		
Costs per pig sold			
Operating costs after post-weaning death loss		$122.87	
Fixed costs after post-weaning death loss		$10.30	
Total		$133.17	
Breakeven price		Live Weight	Carcass Weight
Operating costs after post-weaning death loss		$45.51	$61.50
Total production costs		$49.32	$66.65

Additional Resources

Iowa Pork Industry Center.
109 Kildee Hall. Iowa State University,
Ames Iowa, 50011. 515-294-4103.
in Iowa: 1-800-808-7675
http://www.ipic.iastate.edu/about.html

Iowa State University Extension. 2007.
Ag Decision Maker. Iowa State
University. Ames, Iowa.

Purdue University Extension, 2007.
The New Pork Industry Handbook.
Purdue University. West Lafayette,
Indiana.