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Target Annual Production

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Annual pig output should be set after considering several factors. The greater the production intensity (i.e., the more pigs produced on a farm), the more difficult it becomes to raise pigs without antibiotics. Seasonal production works well in a small niche system because it is essentially an all-in–all-out system with major herd health benefits.

Capacity of facilities is the main constraint that sets the maximum output for the farm. Facility utilization (or how full facilities are and how frequently they are filled) also is a factor. Wean-to-finish facilities should have at least two turns per year. The number of pigs raised in your operation per year influences both non-feed costs and overall income levels. Using only part of existing facility capacity can lead to reduced income, especially if investment in facilities is substantial. Exceeding the capacity of facilities tends to increase stress and disease pressure.

Case study: Determining output target return for management and labor.

In this example, an operation has one hoop barn (175 market pigs), one old barn (160 market pigs), an older shed (75 breeding animals) plus a pen for some cull pigs, and a farrowing/lactation facility (20+ sows and litters).

The plan for this operation is to farrow two groups of sows twice per year, one for the hoop (175 pigs) and one for the old barn (160 pigs). Farrowings are November 1 and December 15, and again April 11 (without skip heat) and June 15 (with skip heat) (leaflet number 510). These four farrowings will fill the barns twice annually. The operation wants to make $30,000 over cash

costs as a return to labor and management.

First, the return per pig should be calculated:

$$260 \text{ lb pig} \times \$0.48/lb = \$125 \text{ Gross Income}$$

$$\$125 \text{ Gross Income/pig} - \$55 \text{ Feed Cost/pig}$$

$$= \$70/pig \text{ Return over Feed}$$

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$$- \$25/pig \text{ Operating and Depreciation Costs}$$

$$= \$45/pig \text{ Return to Labor}$$

The number of pigs needed to achieve the desired income is then determined and compared to available pig spaces.

$$\frac{\$30,000 \text{ Desired Income}}{\$45/pig \text{ Return to Labor}} = 667 \text{ pigs}$$

$$(175 \text{ pigs} + 160 \text{ pigs}) \times 2 \text{ turns/yr} = 670 \text{ pigs}$$

$$\text{Pigs in Hoop Barn} + \text{Pigs in Old Barn}$$

In this example the producer has enough pig spaces to meet target annual income, if the cost and income estimates are correct.

Determining the cost of missing production targets

Assume that the costs listed above are accurate for producing 667 pigs. What are the consequences if production drops to 500 pigs? As Table 1 details, the costs allocated to a single pig must increase. This results in an increased cost of production despite an overall reduction in feed costs due to fewer pigs produced. If the cost structure is sized to match 667 pigs and only 500 pigs are produced, the 167 missing pigs will increase the cost of the operation by $23 per head.

Marketing 500 pigs instead of 667 reduced the total return by $11,348, or

nearly $70/pig. Every litter of 8 pigs under this scenario is worth $560. Because matching annual output to cost structure is so critical for success, efforts should be made to insure that enough pigs are available to meet the production target.

Given this above example, it pays to have enough sows pregnant at the right time. Consider improving reproductive performance by hand-mating, artificial insemination, or improving the pen breeding system. Breeding extra gilts or sows that otherwise would be culled is another strategy to guarantee you have enough bred sows to farrow in a group.

Having extra gilts and sows for a short time in a niche system will not cost as much as missing production targets. Gilts and sows can be housed in low cost facilities. The extra feed fed to a group of sows that is larger than it needs to be for 3-5 weeks while pregnancy is established is small. After enough sows in a group have been confirmed pregnant, the extra gilts or sows can be sold.

Additional Resources

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

Table 1. Cost per pig under two production levels.

	667 hd	500 hd	Difference
$30,000 Target Return,$/hd	45	60	15
$ 6,670 Fixed Costs, $/hd	10	13	3
$10,000 Operating Costs, $/hd	15	20	5
Non-Feed Costs, $/hd	70	93	23
Feed Costs, $/hd	55	55	0
Total Costs, $/hd	125	148	23
Market weight, lbs.	270	270	0
Breakeven Price, $/cwt	**46**	**55**	**9**

Table 2. Potential return under two production levels.

	667 hd	500 hd	Difference
$ 6,670 Fixed Costs, $/hd	10	13	3
$10,000 Operating Costs, $/hd	15	20	5
Non-Feed Costs $/hd	25	33	8
Feed Costs $/hd	55	55	
Total Costs $/hd	80	88	8
Total Costs $/farm	53,360	44,000	9,369
Market weight, lbs	270	270	
Price, $/lb	0.46	0.46	
Income, $/hd	124	124	
Total Income, $	82,708	62,000	20,708
Total Return, $	29,348	18,000	-11,348
Labor, hr	1500	1500	
Hourly income, $/hr	**20**	**12**	**-8**