2001

An Analysis of the Cost of Producing Pork in Hoop Structures and Confinement during the Summer

Benjamin Larson
Iowa State University

James B. Kliebenstein
Iowa State University, jklieben@iastate.edu

Mark S. Honeyman
Iowa State University, honeyman@iastate.edu

Arlie D. Penner
Iowa State University

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Abstract
This research compares pork production in two types of production facilities. Information for the fourth group of pigs, which was fed from June 1999 to October 1999 at the Rhodes Research and Demonstration Farm, is provided. Results will be evaluated using the actual production efficiency numbers and the average or typical costs for feeder pigs, feed, etc., along with average market hog prices. This allows for comparison of expected costs and returns for normal input cost and hog price conditions.

Keywords
Economics, Animal Science

Disciplines
Agricultural Science | Agriculture | Animal Sciences | Economics

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Ben Larson, research assistant,
James Kliebenstein, professor,
Department of Economics;
Mark Honeyman, associate professor,
Arlie Penner, research associate,
Department of Animal Science

Introduction

This research compares pork production in two types of production facilities. Information for the fourth group of pigs, which was fed from June 1999 to October 1999 at the Rhodes Research and Demonstration Farm, is provided. Results will be evaluated using the actual production efficiency numbers and the average or typical costs for feeder pigs, feed, etc., along with average market hog prices. This allows for comparison of expected costs and returns for normal input cost and hog price conditions.

Results

Feed efficiency was better for the confinement system: 2.92 vs. 2.96 pounds of feed per pound of pork sold. Pigs fed in hoops had an average daily gain that was more than that for the confinement pigs: 1.82 vs. 1.69 pounds per day. The hoop pigs started, on average, at a slightly lighter weight (1.5 pounds lighter), averaged fewer days on feed (1.23 days), and weighed 11 pounds more at the packing plant. The confinement animals had a carcass yield that was 1.3 percentage points better. Due to the yield differential the difference in carcass weight was only 4.67 pounds more (186.41 vs. 181.74 pounds) for hoop pigs compared with confinement pigs. The lean premium was $.43 more per hundred weight for confinement pigs.

Facility costs are budgeted at $180 per pig space for a confinement operation and $55 per pig space for the hoop system. Annual fixed costs were calculated at 13.2% of the investment for confinement and 16.5% for hoops. The confinement facilities are depreciated over 15 years, whereas the hoops are depreciated over 10 years. Insurance and taxes represent 1.5% of the fixed investment while interest is calculated at 10% interest for both confinement and hoops. Both groups have 2.6 groups of pigs per year.

Results show a net revenue difference of $.50 per pig in favor of the hoop system for this summer trial. This occurs despite a cost advantage for the confinement operation and is due largely to the hoop hogs gaining at a faster rate and being heavier when marketed.

Summary

Results of this trial show a $.50 per pig profit advantage in favor of the hoop system over confinement. Feed efficiency was approximately the same for the two systems. A $.50 per pig difference in profits is a relatively small amount. Average daily gain was better for the hoop system: 1.82 pounds per day compared to 1.69 for confinement. This led to a revenue advantage for the hoop system. This advantage was partially offset by a grade and yield advantage for the confinement pigs. Death loss was slightly higher for the hoop-raised pigs.

Although profits per pig were similar between the two production systems, there were differences in the cost structure. Fixed costs were higher for the confinement system, whereas operating costs were greater for the hoop system. These results are consistent with previous studies and expectations, because confinement systems require large capital outlays for facilities. Hoops require higher operating costs for items such as bedding and feed.

Selection between production systems with comparable levels of profit can be difficult. Management style and personal preferences will play a big part. Other important considerations will be access to resources that differ between the systems, such as bedding, capital for facilities, and labor availability.

Swine grow finish production budget – a summer group.

Item	Hoop	Confinement	Difference
Facility Investment			
Building (per pig space)	$55.00	$180.00	($125.00)
Feed & manure handling	$36.00	$36.00	$0.00
Total initial investment	$91.00	$216.00	($125.00)
2.6 Turns/year final day out + 8 days	2.6	2.6	
Total initial investment per turn	$35.00	$83.08	($48.08)
% Interest taxes, depreciation, insurance	16.5%	13.2%	(4%)
Fixed Cost			
Facility cost per hog marketed	$5.98	$11.46	($5.48)
Fixed cost per cwt marketed	$2.34	$4.68	($2.34)
Operating Costs			
Feeder pigs	$38.00	$38.00	
Feeder pig death loss	$1.38	$1.73	($0.35)
Interest on feeder pig (10% - 4 months)	$1.31	$1.32	($0.01)
Fuel repairs utilities	$1.04	$1.57	($0.53)
Bedding	$3.76		$3.76
Feed ($.06/LB)	$39.95	$37.18	$2.77
Vet/medical	$1.55	$1.57	($0.01)
Interest on fuel, feed, etc. (10% - 2 months)	$0.80	$0.70	$0.10
Labor	$1.55	$1.57	($0.01)
Marketing costs	$2.80	$2.09	$0.71
Total operating cost	$92.14	$85.73	$6.41
Operating costs/cwt marketed	$35.97	$34.97	$1.00
Total cost (per pig marketed)	$98.13	$97.19	$0.93
Total cost per cwt*	$38.31	$39.65	($1.34)
Revenue from cull pigs per head	$0.60	$1.18	($0.58)
Net cost (per pig marketed)	$97.53	$96.02	$1.51
Net cost per cwt*	$38.07	$39.17	($1.10)
Revenue from $60 carcass weight**	$111.85	$109.83	$2.01
Net revenue per hog marketed	$14.32	$13.82	$0.50

*Uses plant sale weight.

**Confinement revenue includes the $.43 per carcass hundred weight lean premium as well as the yield premium.