

more feed to produce a pound of gain. These relationships are what has been shown over time at the Iowa State University Rhodes Research/Demonstration Farm on seasonal pork production. The overall feed efficiency used for the seasonal system is 3.89 lbs. of feed per pound of gain. It is 4.00 for the continuous system.

Results and Discussion

Information from Table 2 summarizes organic pork production costs for the seasonal production system and the continuous production system. Costs from the traditional seasonal outdoor farrowing system were adjusted to reflect the differences between winter and summer farrowing as well as organic production. Costs from an organic budget previously prepared by Becker, Kliebenstein, and Honeyman were adjusted for additional costs for winter-farrowed organic hogs such as iron and a decrease in pigs farrowed and marketed. Bed-

ding use was taken, in part, from current research on hoop buildings at the Iowa State University Rhodes Research Farm with bedding costs added for farrowing and increased for winter farrowed groups. Annual repairs were set at 10% of the initial facility price. Record keeping was set at \$5,000/year for each system due to the requirements for maintaining records for organic audits as well as a mandatory 1% charge on sales revenue for hogs sold organically. Labor was placed at \$10.00/ hour and was set at 13 hours/litter for the continuous system (12 in the summer and 14 in the winter) and 10 hours/litter for the seasonal system. This difference is due to increased cleaning required for the floored insulated sheds, smaller batch sizes of feed prepared, increased snow removal, and additional winter farrowing care.

The cost of production per hundred pounds was \$63.88 for pigs from the continuous system compared with \$59.45 for the seasonal system, a

Table 2. Organic pork production costs for seasonal and continuous production.

Total Cost Comparison						
Continuous Farrowing			Seasonal (Summer Farrowing)			
Variable costs	Costs	Per Head	Variable costs	Costs	Per Head	Differences
Feed	\$179,490	\$86.97	Feed	\$175,872	\$83.71	\$3.26
Health costs	1,032	0.50	Health costs	735	0.35	0.15
Bedding	10,319	5.00	Bedding	8,929	4.25	0.75
Repairs	3,842	1.86	Repairs	3,633	1.73	0.13
Record keeping	5,000	2.42	Record keeping	5,000	2.38	0.04
Fuel/Utilities	4,128	2.00	Fuel/Utilities	3,152	1.50	0.50
Subtotal	\$203,812	\$98.75	Subtotal	\$197,322	\$93.92	\$4.84
Interest	10,191	4.94	Interest	9,866	4.70	0.24
Labor	42,120	20.41	Labor	31,500	14.99	5.42
Breeding herd	16,970	8.22	Breeding herd	19,681	9.37	(1.14)
Trucking	5,160	2.50	Trucking	5,253	2.50	0.00
Total variable	\$278,252	\$134.82	Total variable	\$263,621	\$125.47	\$9.35
Fixed costs	\$51,340	\$24.88	Fixed costs	\$48,622	\$23.14	\$1.73
Total	\$329,592	\$159.70	Total	\$312,244	\$148.61	\$11.08
Total hogs sold	2,064		Total hogs sold	2,101		
Total weight sold	515,970		Total weight sold	525,263		
Production cost/cwt	\$63.88		Production cost/cwt	\$59.45		

Total production cost difference per hundred pounds **\$4.43**

difference of \$4.43 per hundred pounds or \$11.09 per market pig. It is also necessary to compare production costs between the winter and summer seasons for the continuous production system. Table 3 provides a total cost comparison of the winter farrowed (October-March) and the summer farrowed hogs (May to September) within the continuous system. The largest difference between systems is the labor costs with a \$5.07 per head difference. The facilities, which differ by an impermeable pad provided for winter farrowing is the second largest cost difference at

\$4.87/pig due largely to the fact that there is a 0.3 difference in pigs finished per litter. Winter farrowed pigs have also \$0.89 more in feed costs than the summer-farrowed pigs. This result may, at first, appear as low but the winter-farrowed pigs are in the grow finish phase during the spring and summer months. The break-even production costs per hundred pounds was \$66.92 for the winter-farrowed pigs compared with \$61.11 for the summer-farrowed pigs, a difference of \$5.81 per hundred pounds or \$14.52/pig.

Table 3. Organic pork production costs for continuous production winter versus summer.

Winter			Summer			
Variable costs	Total	Per Head	Variable costs	Total	Per Head	Difference
Feed	\$85,977	\$87.43	Feed	\$93,513	\$86.54	\$0.89
Health costs	671	0.68	Health costs	361	0.33	0.35
Bedding	5,418	5.51	Bedding	4,902	4.54	0.97
Repairs	1,921	1.95	Repairs	1,921	1.78	0.18
Record keeping	2,500	2.54	Record keeping	2,500	2.31	0.23
Fuel/Utilities	2,476.66	2.52	Fuel/Utilities	1,651.10	1.53	0.99
Subtotal	\$98,963	\$100.64	Subtotal	\$104,840	\$97.03	\$3.61
Interest	4,948	5.03	Interest	5,242	4.85	0.18
Labor	22,680	23.06	Labor	19,440	17.99	5.07
Breeding herd	8,485	8.63	Breeding herd	8,485	7.85	0.78
Trucking	2,458	2.50	Trucking	2,701	2.50	0.00
Total variable	\$137,535	\$139.86	Total Variable	\$140,718	\$130.23	\$9.64
Fixed costs	\$26,970	\$27.43	Fixed costs	\$24,370	\$22.55	\$4.87
Total	\$164,505	\$167.29	Total	\$165,088	\$152.78	\$14.51
Total hogs sold	983		Total hogs sold	1,081		
Total weight sold	245,835		Total weight sold	270,135		
Production cost/cwt	\$66.92		Production cost/cwt	\$61.11		
Total production cost difference per hundred pounds			\$5.81			

Table 4 provides a summary of the production costs (break-even prices) of the two systems as well as the break-even values for the summer- and winter-farrowed pigs within the continuous production system. The lowest cost is with the seasonal system or summer only farrowing. The highest cost occurs for the winter-farrowed group.

Table 4. Organic pork production cost (\$) by system and season

System or Season	Per Pig	Per CWT
Seasonal	148.61	59.45
Continuous	159.70	63.88
Winter continuous	167.29	66.92
Summer continuous	152.78	61.11

Summary and Implications

This report has shown that it costs more to produce organic pork than conventional pork. This result has been documented and supported by previous studies as organic feed ingredient costs per unit are higher and feed efficiency for organic pork production is not as good. This study also provides a seasonal comparison of organic pork production costs. Cost increases incurred by producers in moving from a seasonal (summer only) farrowing system to a continuous farrowing organic production system can be significant. Incentives are needed to encourage producers to shift to continuous production practices that provide a more uniform supply of fresh pork. Cash flow difficulties can be created if premiums do not reflect seasonal differences in production costs.

One of the key questions involved in the relevance of the production cost projections is the scale of production used. The production system that was developed is larger than many of the organic operations that are currently in use. However, the information is on a per pig comparison. Cost of production values can be adjusted to fit alternative sizes of production systems. For example, the system can be reduced to half of the current size with very little added per pig cost by reducing the size of the groups of sows that are being farrowed by 50 percent in the continuous system and by reducing sow numbers in the seasonal system. These adjustments would not have a significant impact on the difference on costs. The facilities are not capital intensive and there are not significant economies of size for building construction. Facility costs represent approximately 15/16 percent of production costs.

Organic pork production cost per hundred pounds was projected to be \$59.45 for the seasonal system. This cost compared with \$63.88 per hundred pounds for the continuous system. The seasonal system had a cost advantage of \$4.43 per hundred pounds. When comparing organic pork production costs by season of the year in the continuous system, cost for winter farrowing was \$5.80 per hundred pounds over summer farrowing. Production costs for winter farrowing was \$66.92 compared with \$61.11 for summer farrowing in the continuous system. This result clearly points out that production costs differ by production system and seasons of the year.