

11.9% for summer barrows ( $P < .05$ ) compared to winter barrows. There was no difference for gilts summer to winter ( $P > .69$ ). The values used were backfat thickness adjusted to 250 lb.

Also pigs fed in hoops have smaller loin muscle areas than pigs fed in confinement. During the summer, hoop barrows had 4.5% smaller loin muscle areas and hoop gilts had 4.7% smaller loin muscle areas than their counterparts in confinement ( $P < .01$ ). During the winter, both barrows and gilts fed in hoops had 5.7% smaller loin muscle areas than their counterparts fed in confinement ( $P < .001$ ). Seasonally, hoop barrows fed in summer had 8% smaller loin muscle areas and hoop gilts 6.5% smaller loin muscle areas than their counterparts fed in winter ( $P < .01$ ). In confinement, the seasonal reduction in loin muscle area was 9.1% for barrows and 7.6% for gilts ( $P < .001$ ). The values used were loin muscle area values adjusted to 250 lb.

Therefore, the pigs fed in hoops have a lower percentage of calculated lean than pigs fed in

confinement. During the summer, hoop barrows and gilts had 1.6-1.7 percentage units less lean than their confinement counterparts ( $P < .001$ ). During the winter, hoop barrows have 1.2 percentage units less lean and hoop gilts have 1.0 percentage units less lean than their confinement counterparts ( $P < .01$ ). Seasonally, hoop barrows fed in summer had 3.2 percentage units less lean and hoop gilts had 2.8% percentage units less lean than their counterparts fed in winter ( $P < .001$ ). In confinement, the seasonal differential was 2.7 and 2.2 percentage units less lean for summer compared with winter ( $P < .001$ ).

Based on these results, barrows and gilts respond similarly to the hoop environment with faster summer growth rates, greater fat deposition, and smaller loin muscle areas. Additional research is needed to improve pig performance in hoops.

For a complete report of this project, contact M.S. Honeyman, 515-294-4621, [honeyman@iastate.edu](mailto:honeyman@iastate.edu), or visit the website <http://www.extension.iastate.edu/ipic/reports>.

**Table 1. Performance of barrows and gilts fed in hoops and confinement (4 trials, 2 seasons, 2 years).**

Measure	Barrows		Gilts		SEM	
	Hoop	Conf	Hoop	Conf	Hoop	Conf
Start wt., lb	34.5	33.7	34.3	34.0	.4	.3
End wt., lb <sup>a</sup>	260.7	257.4	254.7	251.0	1.3	.9
Weight gain, lb	226.2	223.7	220.4	216.9	1.2	.9
Days on feed	124.5	125.5	126.6	127.8	.6	.4
Adjusted days to 250 <sup>b</sup>	166.8	167.0	171.4	172.7	.8	.5
ADG, lb/day	1.84	1.79	1.76	1.71	.01	.01 ***
Scan wt., lb	247.7	248.9	238.2	239.3	1.3	.9
Test period, days	118.4	121.0	118.4	121.0	0	0 **
Backfat, in.	.95	.88	.78	.74	.01	.01 **
Adj. backfat, in. <sup>b</sup>	.96	.89	.82	.77	.01	.01 **
Loin muscle area, sq.in.	6.11	6.46	6.18	6.54	.05	.04 *
Adj. LMA, sq. in. <sup>b</sup>	6.15	6.48	6.37	6.72	.05	.03 ***
Lean, lb/pig	93.3	96.5	93.4	96.2	.05	.04 ***
Lean, % <sup>c</sup>	51.0	52.4	53.1	54.4	.19	.14 ***
Lean gain, lb/d on test	.70	.71	.70	.71	.01	.01
FLLI, %	49.1	50.7	51.8	53.2	.21	.15 ***

SEM, standard error of the mean.

<sup>a</sup>End weight is the liveweight at the farm prior to shipping to the plant.

<sup>b</sup>Adjusted to 250 lb liveweight.

<sup>c</sup>Includes 0% fat, calculated with NPPC formula.

\* $P < .05$ , \*\* $P < .01$ , \*\*\* $P < .001$ .