237 Effect of sow lactation crate size on litter performance and survivability. L. L. Thomas[1,*], K. F. Coble[2], C. W. Hastad[2], M. D. Tokach[1], S. S. Dritz[1], R. D. Goodband[1], J. M. DeRouchey[1], J. C. Woodworth[1], *[1]Kansas State University, Manhattan, [2]New Fashion Pork, Jackson, MN.*

A study was conducted on a commercial sow farm in southern Minnesota, where 528 litters of pigs (PIC TR4 × (Fast LW × PIC L02)) were used to determine the effects of sow lactation crate size on litter performance and survivability. Farrowing crate length was maintained at 2.26 m, but width was adjusted to allow for treatments of 1.46, 1.65, and 1.83 m. To create the desired farrowing crate dimensions, divider panels were adjusted accordingly, taking space away from one sow's crate to give it to another. This allowed for blocks of 3 crates, where each treatment was represented. Sows were loaded into individual lactation crates at random, balancing for parity across treatments. Cross fostering occurred within 24 h of farrowing prior to obtaining litter weight in effort to equalize litter size across treatments (minimum of 6 pigs per litter). Data were analyzed using generalized mixed models where treatment was a fixed effect and block was a random effect. Born alive, piglets weaned, and pre-weaning mortality were all fitted using a binomial distribution. Regardless of treatment, there was no evidence of differences in total piglets born, percentage piglets born alive, litter birth weight, litter weaning weight, or litter ADG. In addition, no evidence for differences were observed in the percentage piglets weaned or pre-weaning mortality. In conclusion, increasing lactation crate size did not impact litter performance or pig survivability in this study.

Key Words: lactation, lactation crate size, sow
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238 Feed efficiency of gestating gilts and sows under commercial conditions. L. L. Thomas*, S. S. Dritz, M. D. Tokach, R. D. Goodband, J. C. Woodworth, J. M. DeRouchey, *Kansas State University, Manhattan.*

A study was conducted on a commercial sow farm to examine the effects of parity and stage of gestation on ADG and G:F of gestating sows. A total of 712 females (Line 1050, PIC, Hendersonville, TN) were group-housed and individually fed with electronic sow feeders. Individual scales were in the alleyway after individual feeding stations leading to the pen. Females were moved from the breeding stall to the pens on d 4 of gestation. Feed intake and BW were recorded daily throughout gestation. As a result, ADFI, ADG, and G:F were generated daily for each sow. Gilts (parity 1) and sows received 2.0 and 2.26 kg/day, respectively, of feed while 12 thin females received 3.0 kg/day (fed a common diet with 0.63% SID Lys and 3225.3 kcal/kg intake of ME). Data were divided into 3 parity groups: 1, 2, and 3+ and gestation was divided into 5 periods: d 4–15, d 16–30, d 31–60, d 61–90, and d 91–112. From d 4 to 15, ADFI and ADG were lowest for each parity group compared to the other periods of gestation ($P < 0.001$). For parity 1 sows, ADFI was lower ($P < 0.05$) compared to parity 2 and 3+ sows, which is attributed to the assigned feeding strategies. Parity 2 sows, although provided the same feed allowance, had greater ADFI during the first period ($P < 0.05$) than parity 3+ sows. Both parity and period of gestation affected ($P < 0.05$) ADG. Gain:feed was lowest from d 4–15 for each parity group ($P < 0.001$). Parity influenced ($P < 0.05$) G:F with parity 1 sows having the greatest G:F in most gestation periods. Overall, this study shows that gestation ADFI, ADG, and G:F differ based on parity and period of gestation.

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239 Effect of dietary calcium inclusion rate in diets for lactating sows. A. Graham[1,*], T. Hall[1], L. Ochoa[1], L. Greiner[1], M. A. D. Goncalves[2], U. A. D. Orlando[2], J. Connor[3], *[1]Carthage Innovative Swine Solutions, LLC, Carthage, IL, [2]Genus PIC, Hendersonville, TN, [3]Carthage Veterinary Service, Ltd, Carthage, IL.*

Ninety-three sows (Camborough PIC) were used to evaluate the effects of dietary calcium (Ca) inclusion rate in lactating sows. Sows were allotted at the end of gestation into a RCBD (Block = Parity ≤ P2 or ≥ P3) with the following feed treatments: 0.63 vs. 0.79 vs. 0.95% total Ca with total phosphorus (P) constant at 0.63% and available P constant at 0.43%. All diets were formulated to meet or exceed NRC requirements (NRC, 2012) for major nutrient specifications. Feed was provided ad libitum to

Table 237.

Item	Sow lactation crate size, m			SEM	Probability, $P <$
	2.26 × 1.46	2.26 × 1.65	2.26 × 1.83		
Total piglets born, n	14.7	14.1	14.2	0.253	0.154
Born alive, %	91.5	93.1	92.2	0.593	0.103
Litter size after equalization, n	13.3	13.2	13.1	0.082	0.786
Litter birth weight, kg	18.2	18.1	18.1	0.268	0.941
Litter weaning weight, kg	65.6	67.4	65.7	1.242	0.466
Litter ADG, kg	2.40	2.48	2.41	0.045	0.326
Piglets weaned, %	79.2	79.0	77.4	1.046	0.288
Pre-weaning mortality, %	18.4	18.9	20.1	0.969	0.322
Lactation length, d	19.6	19.6	19.5	0.239	0.919