

ANIMAL WELFARE

Title: Investigation into the effects of feeding schedule on body condition, aggressiveness, and reproductive failure in group housed sows NPB #05-060

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Abstract

A total of 208 sows and 288 gilts (PIC Line C29) were used to determine the influence of feeding frequency (two versus six times per day) in gestation on performance and welfare measurements. The experiment was conducted on a commercial sow farm in northeast Kansas that typically housed gestating sows and gilts in pens. Treatments consisted of feeding similar amounts of feed to each sow or gilt over two (07:00 and 15:30) or six times per day (07:00, 07:30, 08:00, 15:30, 16:00, and 16:30 hours, respectively). There were 8 sows or 12 gilts in each pen. Gilts and sows were moved to pens after breeding.

In gestating sows, there were no differences ($P > 0.10$) between treatments in ADG, backfat change, or variation in body weight. There was a trend ($P < 0.08$) for sows fed twice a day to farrow more total number born, but number born alive or other reproductive performance were not different ($P > 0.10$) among treatments. Sows fed 6 times a day had increased vocalization during the morning ($P < 0.07$) and afternoon ($P < 0.01$) feeding periods compared with sows fed twice a day; however, sows fed twice a day had more skin ($P < 0.01$) and vulva ($P < 0.04$) lesions as well as a small, but significant, increase in feet/leg ($P < 0.01$) and hoof ($P < 0.02$) problems.

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In this commercial facility, their standard management protocol required moving gilts to a different gestation facility. On d 42, two pens of gilts with similar breeding dates and treatment were combined and moved to another facility with larger pens until farrowing. From d 0 to 42, gilts fed six times a day had greater ADG ($P < 0.07$), and d 42 backfat ($P < 0.09$). After movement to the larger groups from d 42 to farrowing, ADG was similar ($P > 0.10$) for gilts fed twice or six times per day. Gilts fed twice a day had lower weight variation at both d 42 ($P < 0.04$) and at farrowing ($P < 0.10$). In gilts, there were no differences ($P > 0.10$) for reproductive performance, skin and vulva lesions, and leg/feet and hoof scores.

In conclusion, there was few growth, farrowing, or aggression differences among gilts fed either two or six times per day. This suggests that either feeding method is suitable for group housed gilts. Among sows, feeding frequency resulted in few growth or farrowing performance differences. Feeding six times per day did result in a small but significant reduction in skin and vulva lesions and structural problem scores while increasing vocalization. Increasing the feeding frequency from two to six times per day does not appear to have a dramatic negative or positive impact on performance or welfare of group housed gilts and sows.