Lactation Length Effects on Reproductive Performance in First Parity Sows

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It is now common practice to wean sows after shorter lactations. Although early weaning maximizes farrowing crate use and may improve overall herd health, litters/sow/year often does not increase and reproductive performance may be particularly compromised in first parity sows. Sow nutrition is also important and restricted feed intake during lactation decreases embryo survival and increases the weaning-to-estrus interval (WEI).

In this study, 71 primiparous F_2 sows were assigned to early weaned (EW; d 14) or conventionally weaned (CW; d 24) treatment groups. Sow body weight and backfat depth (P2) were recorded at farrowing, at weekly intervals until weaning, and again at standing heat (SH). Blood samples were collected every 15 min for 10 h before and 10 h after weaning via a jugular catheter, and then every 6 h until ovulation had occurred, to determine hormone status of the sows. Sows were heat checked twice daily and bred using pooled semen at the onset of SH and again 24 h later. Ovarian ultrasonography every 6 h was used to record time of ovulation.

EW sows had significantly more backfat ($P<0.02$) and tended to have higher IGF-1 concentrations at weaning, indicating better body condition; however, WEI (5.1 ± 0.8 and 4.9 ± 0.6d), ovulation rate (19.1 ± 8.1 and 18.8 ± 3.3), duration of SH (52.4 ± 10.8 and 46.3 ± 11.9h) and embryo survival (62.1 ± 18.2 and 62.2 ± 23.4%) were not different between the EW and CW groups. In the CW group, lactation and post weaning feed intakes were both positively correlated ($P<0.05$) with embryo survival.

Implications
The data indicate that fertility in both these groups of first parity sows was compromised, but that the mechanism affecting reproductive performance in EW and CW sows may differ. The results confirm the important impact of lactation and post-weaning feed intake on subsequent embryo survival.