

Effects of split weaning on fertility following lactation

A. Wellen, K. Degenstein, P. Zimmerman, R. O'Donoghue, J. Patterson, M. Dyck and G. Foxcroft

Swine Research & Technology Centre, 4-10 Agriculture/Forestry Centre, University of Alberta, Edmonton, AB T6G 2P5; **Email:** george.foxcroft@ualberta.ca

In North America the move to shorter lactations, has been associated with an increase in reproductive problems in first parity sows, particularly extended weaning-to-estrus intervals (WEI). Economically, a short and consistent WEI is desirable, without any negative effects on subsequent litter size. Split weaning aims to decrease WEI, without decreasing the overall length of lactation, by removing some suckling stimulus that inhibits hormone release, follicular growth and the return to estrus following lactation. Previously, it has been demonstrated that split weaning can improve reproductive performance.

1st and 2nd parity sows were allocated to one of two treatments; 1) Control (C): all piglets weaned at day 19 of lactation and, 2) Split-Weaned (SW): the heaviest piglets split-weaned at d16, leaving the 5 lightest piglets to be weaned at d19 of lactation. This study consisted of two phases: Phase 1 a 96-h blood sampling period was completed to measure hormone levels prior to gathering data on reproductive performance (n=19); Phase 2, only reproductive performance data were gathered (n=52).

No significant differences in reproductive performance were detected between C and SW sows in either experimental phases ($P > 0.05$).

	Phase 1		Phase 2	
	C(B), n=10	SW(B), n=9	C, n=27	SW, n=25
WEI, h	119±6	114±6	137±6	125±6
Pregnancy rate, %	90	100	100	95
Ovulation rate, n	17.5 ±1.1	16.4±1.1	17.6±0.6	18.2±0.6
Viable embryos, n	10.5±1.3	9.5±1.3	12.2±0.5	13.1±0.6
Embryo survival, %	63.7±6.8	60.4±6.8	69.7±3.2	73.8±3.5

Implications: The effectiveness of split weaning needs to be reconsidered as it appears that although predictable endocrine changes result, the response of modern sows to this technique has changed drastically.