

# Responses to induced lactational catabolism in primiparous sows: 2. Lack of effect on reproductive performance

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The relative lack of an effect of lactational catabolism on many measures of post-weaning fertility is evident in contemporary commercial primiparous sows. Acceptable productivity is attainable even when first parity sows are induced to lose large amounts of weight. As part 2 of a recent investigation we studied the effect of feed restriction during late lactation on fertility after weaning. All the primiparous sows in the present experiment were fed to appetite from farrowing until day(d) 13 of lactation. At d14, sows were pair-matched based on average feed intake between d11 and 13 (Av FI d11-13) and assigned to one of two treatments. Based on AV FI d11-13 Control (CON) sows were fed their predicted feed voluntary intake from d14 to 20 of lactation, whereas Restrict (RES) sows were fed 50% of their predicted feed over the same period. Sows were weaned at  $d21.2 \pm 0.7$  of lactation and fed ad lib until breeding. Sows were checked twice daily for heat and were first bred using artificial insemination 12 h at detection of estrus and then every 24 h until the sow no longer exhibited the standing reflex. There was no difference ( $P > 0.5$ ) between CON and RES sows in weaning-to-estrus interval (CON  $4.7 \pm 0.2$  vs. RES  $5.0 \pm 0.2$  d, respectively), rebreeding rate (CON  $95.1 \pm 3.4$  vs. RES  $90.0 \pm 4.7\%$ , respectively) or pregnancy rate at d30 of gestation (CON  $87.9 \pm 5.1$  vs. RES  $90.0 \pm 4.7\%$ , respectively). Reproductive tracts were recovered after slaughter ( $29.3 \pm 1.0$  d of gestation) and dissected on-site. Again, no differences in ovulation rate (CON:  $20.0 \pm 0.5$  vs. RES  $20.5 \pm 0.5$ ), number of viable embryos (CON:  $13.9 \pm 0.5$  vs. RES:  $13.8 \pm 0.5$ ) or embryo survival (CON:  $69.8 \pm 2.8$  vs. RES:  $67.9 \pm 2.8$ , %, respectively), nor differences in embryo weight, embryo length or placental volume (data not shown), were established.

**Implications:** These results show that maximizing feed intake of first parity sows after weaning may negate short-term detrimental effects of lactational catabolism. However, other studies still indicate that a delayed post-weaning estrus, or full skip-a-heat breeding, can still increase litter size born in these sows.