Modifying the Productivity of Early-weaned Sows

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The rebreeding performance of first and second parity females is a large part of the variance when evaluating lifetime productivity of breeding swine. When flow issues mandate that an excessive number of sows farrow in a fixed number of crates it is often necessary to remove litters at an undesirably early age. This particular farm had experienced some improvements in the predictability of matings when they administered PG 600[4] at weaning and had implemented this practice on all sows weaned less than 18 days after farrowing. This trial was conducted to better understand the impacts of events post farrowing on subsequent reproductive performance and as a pilot project for to address flow issues in the future including health upgrades and necessary variations in weaning dates.

For a total of 20 weeks all 1st and 2nd parity sows with shortened (13-17 days) but normal lactation lengths were assigned to one of two treatments based on her eartag. Odd numbered females were given PG 600 at weaning and mated when found in estrus. Even numbered females were fed MATRIX[5] (20 mg/hd/day) for 6 days commencing the day before weaning and continuing for 5 days in specially identified crates in the breeding barn. MATRIX was applied to feed daily and sows were moved to the normal weaned sow flow for mating after the last day's feeding. A total of 360 sows were used during the period. Data reported in Table 1 are averages from the PigChamp Records System for those treatments. Adjusted farrowing rates were used to remove those animals which failed to farrow for non-reproductive reasons.

Table 1. Production averages from PG 600 and MATRIX treated females

Treatment	Number of Females	Adjusted Farrowing %	Average Total Born / Trt.	Average Pigs Born Alive / Trt.
PG 600	176	86.4	11.47	10.64
MATRIX	184	89.8	11.03	10.40

The sows allocated to MATIX had an additional 5 days added to their wean-to-service interval due to the treatment protocol but there was no noticeable difference in the cumulative non-productive days between those sows after removal from feed and the sows injected at weaning with PG 600. The major influence in farrowing rate on the PG 600 treated sows were sows that were in heat but did not maintain pregnancies for the full terms. This fact could also explain the 1.5% higher stillborn and mummy percentage for those litters.

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[4] 400 IU PMSG + 200 IU hCG: Intervet Inc., Millsboro, DE
[5] Altrenogist, Intervet Inc., Millsboro, DE

Obviously, there was no statistical analysis performed on these observations. Additionally, some variance occurred in the use of a top-dress product in troughs that also supply water and in the appetites of sows after weaning. Although reasonable efforts were used, concerns over intake have led to dosing each sow directly into the mouth for future work. Additionally, some sows in this system are extremely large by the time they have weaned their second litter so some concerns were discussed about the actual amount of MATRIX to feed each female. And finally, it has been noted in other uses that animals fed the product for longer periods may actually present a stronger expression of estrus. These issues continue to be addressed.

The consensus from this project is that MATRIX can be used to increase the period between the actual farrowing event and the subsequent rebreeding date. Since productivity of sows increases when healthy sows have lactation lengths in the window between 18 and 25 days, it is concluded that MATRIX, placed properly, can aid in recovering lost production from early-weaned sows in this system. The long-range goal of this system is to use production tools to complement good management and allow for options as the systems dictate flows.