



Stop the cycle: Sow parity impacts progeny performance

Keeping sows in the herd longer may reduce cost and result in more productive pigs.

Bringing replacement gilts into the breeding herd can be expensive. Gilts tend to have smaller litters and lower farrowing rates than established sows. Because of this, a producer with an average replacement rate of 55 to 60 percent will end up feeding more females for fewer progeny – a vicious cycle to be in year after year.

Aside from getting fewer pigs per gilt, a gilt's progeny can be weaker performers than their higher-parity progeny counterparts, costing producers more as they move through growth phases.

“To counter this expense, we need to keep sows in the herd longer,” says Zach Rambo, Ph.D., swine nutritionist at Zinpro. “We know Parity 3 to 4 is the sweet spot in terms of productivity and economic return for the sow herself.”

Wide performance variations

Research has shown performance varies widely between the progeny of gilts and sows. More specifically, reports from an Australia-based pork research center state the following about gilt progeny¹:

- Weighed 0.44 pound less at birth.
- Had a 12 to 17 percent slower growth rate.
- On average, were 2.2 pounds lighter at weaning and 13.2 pounds lighter at 24 weeks.

Piglets born to gilts tend to have higher mortality rates and increased disease susceptibility; low birthweight is a risk for disease and mortality, and gilt progeny tend to be lighter at birth than sow progeny. Pigs weighing less than 2.65 pounds at birth account for 40 percent of pre-weaning mortality cases, regardless of sow parity.

“We know piglets from gilts tend to start off smaller, which makes them more vulnerable to health challenges,” Rambo says.

According to the Australian research, gilt progeny cross-fostered to multiparous sows never reached the growth rate of sow progeny. The impact of lighter birthweights (less than 2.65 pounds) lingered, producing a fatter carcass compared to piglets with a heavier birthweight.

Gilt progeny drag down herd feed conversion

The potential performance difference between gilt and sow progeny can be seen in herd feed conversion (HFC) and feed costs. HFC accounts for the feed consumed per pound of carcass weight produced; it accounts for feed consumed by sows and progeny.

¹ Smits, R. (2011). Impact of the sow on progeny productivity and herd feed efficiency. *Recent Advances in Animal Nutrition - Australia*, 18, 61-67.

Production modeling illustrates that reducing gilt replacement rates from about 55 percent to 40 percent could improve HFC by as much as 0.30 points. As outlined in the Australian study, every point change in HFC equals 11 to 12 cents per hundredweight in the U.S. market.

Beware of the real problem

The No. 1 reason for culling early parity sows is reproductive failure, followed closely by lameness. Unfortunately, the cause of the reproductive failure – not the failure itself – could be the real leak draining the herd's profitability.

"It's not uncommon for a sow to be culled for reproductive failure, when the real problem might have been lameness that discouraged her from eating enough to meet her nutritional requirements," Rambo says. "Work to get to the bottom of reproductive failures."

Be cautious of only using the number of pigs per litter to determine when to cull sows, Rambo says. The number of pigs weaned per litter might dip for higher-parity sows, but the pigs are likely to be heavier, more robust and better prepared to resist disease.

"When you're considering factors for culling higher-parity sows, consider the full cost and impact the removal could have on the herd," Rambo says.

Swine producers, veterinarians and nutritionists can learn more about sow nutritional needs and the Feeding for 30[®] Program by visiting www.Feedingfor30.com or www.facebook.com/Feedingfor30.

Purina Animal Nutrition launched the Feeding for 30[®] program in 2012 with the goal of sharing nutrition and management advice and research to help the industry move toward 30 piglets per sow per year. The industry-wide initiative now includes partnerships with Zinpro Corporation and DSM Nutritional Products.

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