

Defining Sow Productivity

Issue I: Birth and Weaning Weights

Heavier Pigs Born, Heavier Pigs Weaned

Research has revealed that profitability for swine producers is highly impacted by piglet birth and weaning weights. Therefore, a key measure of sow productivity is the ability of sows to produce heavier piglets at both birth and weaning. Starting with a healthier, heavier-weight piglet appears to be one of the key factors impacting profitability at market.

Impact of heavier birth weights

At the recent 2006 IPVS Congress, John Deen, DVM, University of Minnesota, described research investigating the impact of birth weight on preweaning mortality and weaning weight.¹ Using a predictive statistical model, his team found that birth weight has an effect on subsequent weaning weight, with an average of 2.34 g of additional weaning weight for each 1 g added at birth. Furthermore, for each additional 100 g of body weight at birth, preweaning mortality likelihood fell by 0.4%.

Several “control points” were identified which can impact birth weights, factors like breed, parity, gender, litter size, and antibiotic intervention. One part of the study assessed the impact of feeding BMD[®] to sows from 2 weeks before farrowing through lactation. The positive effect of BMD on birth weight averaged 58 g per piglet ($P < 0.00005$)

The researchers concluded that the benefits of improving birth weight should not be under-

emphasized, as further benefits in growth rates should be seen through the nursery and grow/finish production phases.¹

Heavier piglets mean more profit

In a recent expert-panel veterinarian teleconference,² Roy Schultz, DVM, of Avoca, Iowa, noted that early research found that an average of 0.5 lb more at weaning was generally worth about \$2 per pig at market. However, the financial implications of additional weight on light-weight pigs appear even greater.

Dr. Deen related some newly recognized facts about heavier piglets.² “Just getting birth weight up seems to carry through a long way. For instance, an extra pound of weaning weight on a light-weight 7- or 8-lb pig is worth an extra \$10 to \$12 at market.”

Deen attributes these benefits to the fact that heavier piglets have better survivability and are more likely to be a “growth-animal” both in the nursery and grow/finish.² He identifies two major characteristics of light-weight pigs arriving in the nursery. “They have a much higher likelihood of dying or continuing to be

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light-weight pigs going out of the nursery, and it also appears that they increase the risk for disease outbreaks in the rest of the nursery pigs.” Deen suggests that these two elements make a strong case for regarding piglet quality as a sow-productivity measure.

Reducing variation

Dr. Deen also reported that recent research has prompted further fine-tuning of earlier estimates of weaning weight financial impacts. “We are now not just looking at the average weaning weight, but at variations in weaning weight. One-half pound of extra weaning weight in an 8-lb pig is worth a lot more than a half-pound extra in a 12-lb pig. That half-pound can make a real difference in those animals,” he emphasized. Deen suggests that

emphasis should not be so much on increasing the average weaning weight, but rather reducing the frequency of light-weight piglets.

“We’re using BMD during lactation and see a benefit in weaning weight.”

– DR. CAMILLE MOORE

Producing heavier piglets

To accomplish the financially rewarding goal of increasing birth and weaning weights, Dr. Schultz described one research-supported method, a feeding program with 250 g/ton of BMD in sow rations starting 2 weeks before farrowing and continuing through lactation.² “This program has resulted in heavier pigs at weaning, and has been shown consistent whether *Clostridium perfringens* was involved or

not,” notes Schultz. In fact, a series of experimental trials with this BMD sow program produced pigs averaging 0.6 lb heavier at weaning.

Camille Moore, DVM, swine consultant in Quebec, Canada, also confirmed his positive experience with the BMD sow program, reporting 260 g (0.57 lb) heavier pigs at weaning by using BMD during lactation.² “We believe there is weaning weight improvement with this approach,” adds Dr. Moore.

Supplementation of sow diets with BMD also appears to impact piglet birth weights. In addition to the Deen study mentioned earlier,¹ Dr. Moore described additional positive results from on-going research involving use of BMD during the last 28 days of gestation in Parity 1 sows. “Preliminary results show about 30 g heavier pigs at birth in the BMD group” reports Moore, though final results are still undergoing analysis. He also noted that in a previous trial, the BMD program improved birth weights by about 54 g. However, Dr. Moore emphasized that program benefits don’t stop at birth. “We’re still using BMD during lactation and see a benefit in weaning weight,” he adds.

REFERENCES:

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2. Alpharma Inc. *Defining Sow Productivity*. 2006.



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