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Putting it all together

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The objective of this presentation is to summarize the day's discussion and to generate ideas to improve sow productivity.

As the world population grows and resources become limited, it is imperative that the swine industry continues to maximize productivity and efficiency. One area that allows for improvement in productivity is maximizing the reproductive performance of the sow. As outlined earlier this year by the National Pork Board, an initiative has been set forth to maximize the number of quality pigs a sow produces in her lifetime with the goal to increase productivity by 30% in the next seven years. According to an article in *Feedstuffs*,¹ Dr. Sundberg notes that if U.S. sow herds can increase the number of litters produced by a sow by one additional litter in her lifetime, the pork industry could receive an increase in \$250 million in net value.

Improving sow lifetime productivity is a complex goal that requires all facets of pork production including but not limited to reproduction, genetics, nutrition, health, and production methods. A systematic approach that addresses each area at various points during a sow's reproductive career must be taken to determine how to maximize her performance.

Dr. Pollman has outlined critical areas to evaluate to help define the opportunities for each system. Dr. Flowers discussed the physiological test for sow longevity. As discussed by both Drs. Ross and Cassady, sow productivity does not start at the time that a sow is first bred, but rather early in the life of a sow.

Various researchers have demonstrated over the years that in order to improve retention and increase lifetime performance, producers must look at the replacement gilt. Published literature and conference proceedings released in the last ten years demonstrate that selection and production methods need to start at an early age before the gilt is first bred. Facility spacing/housing, average daily gain, structure selection, health, and nutrition in gilt developer units can all influence sow lifetime performance. Human data suggests that various environmental influences can influence maternal performance while in-utero and shortly after birth (Ibanez, et al² and Gluckman, et al³).

Data collected by Novus International and Innovative Swine Solutions demonstrated that adding organic trace minerals to a reproductive female's diet early in life can increase her productivity and improve retention rates.⁴ Retention rates were improved within a herd over a period of 3 years by reducing the percentage of removals due locomotion. In addition, total born and farrowing rates increased when chelated minerals were added to the diets. Peters and Mahan also demonstrated that feeding organic trace minerals can improve sow reproductive performance in the form of increased total born and live pigs.⁵

While nutrition plays a role in performance, it is not the only area that can improve sow longevity. As listed earlier and as laid out by the session's speakers, sow lifetime productivity is complex and multi-faceted. Based on the information available and the data that is being generated, producers and production systems need to identify the key areas that they can adjust to enhance gilt performance and adjust their practices to improve lifetime performance and sow longevity. By doing so, sow longevity and performance can be improved and the US can reach the objective laid out by the National Pork Board in the next seven years.

References

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