Season 6, Episode 2: **Functional Teat Count and Its Impact on Swine Performance**

Abigail Jenkins, Graduate Student, Kansas State University, and **Dr. Joel DeRouchey**, Professor and State Extension Leader, Kansas State University, discuss how piglet-to-teat ratios impact preweaning mortality and litter performance, and how producers can apply these findings to their operations.

Background

In commercial swine production, genetic selection has successfully increased litter size over time. However, this progress has not been matched by similar selection pressure for functional teat development. As a result, many sows today farrow more piglets than they have functional teats, which are defined as teats that produce milk and are actively used by nursing piglets. To compensate, producers often rely on cross fostering and nurse sows to ensure all piglets receive adequate colostrum and milk. Despite the widespread use of these practices, limited research exists on how assigning piglets relative to a sow's number of functional teats impacts survivability and performance.

Study Design

The study was conducted on a commercial sow farm in northwest Texas. Functional teat counts were assessed 24 hours post-farrowing, based on milk production, teat structure, and active suckling. Sows were randomly assigned to one of four groups: one fewer, equal to, one more, or two more piglets than the number of functional teats. Piglets under two pounds were excluded and managed separately. No supplemental milk or creep feed was provided, allowing results to reflect the sow's ability to support her litter on her own.

Study Outcomes

Across all treatment groups, the study found that preweaning mortality and piglet removals was increased when the number of piglets assigned exceeded the number of functional teats. Total litter weaning weight increased as more piglets were assigned, however, individual piglet weaning weights declined slightly with increased number of piglets assigned.

Specifically, sows in the treatment group assigned two piglets more than their number of functional teats still weaned litters averaging over 13.5 pounds per piglet. While this was slightly lower than the average weaning weights in groups with fewer piglets, it still reflected healthy performance. These sows also experienced minimal body condition loss and showed no negative effects on their subsequent reproductive performance. Overall, success in higher piglet-to-teat assignments was supported by strong sow condition at farrowing, timely early piglet care, and consistent oversight from trained staff.

Implications for Producers

The study demonstrated that optimal piglet loading should be based on functional teat count, not total litter size. Farms prioritizing individual piglet growth or sow performance may benefit from assigning one piglet fewer than the number of functional teats. Operations aiming to maximize the number of piglets weaned may consider assigning one or two additional piglets beyond functional teat count, provided sow health is strong and early care practices are in place. Regardless of strategy, early identification and support of fall-behind piglets are critical to minimizing losses and promoting uniform growth. Future studies may explore the use of supplemental nutrition, such as milk replacers or creep feeding, to support sows managing larger litters relative to teat capacity.

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