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Steven Claas
Lynn Leary

Layout
David Brown

Logo Design
Ruth Cronje, and Jan Swanson;
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Association between conformation at selection and retention through P2

Karina I. Tiranti, BS, PhD, Robert B. Morrison, DVM, MBA, PhD
University of Minnesota, Saint Paul, Minnesota

Abstract

This study was conducted to determine whether gilts with desirable leg conformation scores had a higher retention rate through 2nd parity than gilts with undesirable scores.

This was a prospective cohort study and the unit of analysis was the individual gilt. One person was trained on the PIC scoring method and evaluated all gilts. Gilts were later delivered to 9 farms with a common management program. Follow–up period was through 2nd parity or August 31st, 2004, whichever came first. Baseline data recorded were leg score and backfat depth. The primary outcome was whether sows were removed or not and if so, the time (days) to removal.

In this scoring system, front leg score ranges from 1 to 9. A one corresponds to a gilt that cannot stand or move and 9 is the best score with animals moving easily and freely with a large stride. Females with front leg scores 1 to 4 are undesirable leg structure with 3 and 4 being buckled and straight legs, respectively. The score increases from 5 to 9 as the forward slope of the front leg increases and 9 is the best score possible. Rear leg scores also range from 1 to 9 with 5 being considered the best. Rear leg scores of more than 5 represent pigs with increasingly straight rear legs, while scores of 4 or lower represent pigs with rear legs increasingly set under. Therefore, a score of 5 is considered the best score for rear legs.

In our study, we found that a single evaluation of conformation of the gilt may identify females having a higher risk of removal and therefore lower longevity in the sow herd. This was true for overall removal and removal due to lameness.

In this particular production system, with the assumption of a causal relationship, at least 12 to 16% of premature sow removal may be attributed to undesirable leg conformation. In other words, if all gilts entering the herd had desirable conformation, 12-16% of the removals (299 sows) prior to parity 2 could be reduced.

If the producer had a larger pool of gilt candidates, selection standards could be increased and sow longevity might increase accordingly.

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Public Issues