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J D. Wheat

G L. Allee

Robert H. Hines

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Farrowing Duration and Its Effects on Pig Performance

J. D. Wheat, R. H. Hines and G. L. Allee

Summary

Based on the first 76 farrowings recorded, average duration (the time between the birth of the first pig and of the last pig in the litter) was 129.09 ± 7.28 minutes, and the average time interval between pigs was 15.71 ± 1.02 minutes. Longer farrowings were associated with longer intervals ($r=.73$), but farrowing duration and litter size at birth were not closely related ($r=.19$, $P>.05$). Farrowing duration was positively associated with the number of pigs born alive ($r=.34$, $P<.01$).

Farrowing interval, a better criterion of speed of farrowing than farrowing duration, was significantly associated with number of pigs alive at birth and at weaning; the correlations were, respectively, $-.75$ and $-.78$. Farrowing interval was also negatively associated with litter weight at 21 days, the correlation was $-.32$ ($P<.05$). So naturally it was negatively associated with the National Swine Improvement Federation's sow-productivity index: ($r=-.18$, $P<.05$). The index is 6.5 times the number of pigs born alive plus litter weight of pigs 21 days old.

The number of live pigs per litter at birth averaged $9.75 \pm .34$ and at 21 days, 8.60 ± 1.2 .

Introduction

Farrowing is one of the most critical stages in the swine-production cycle. Problems, then, can arise to cause death to or reduced efficiency in the sow as well as the pigs. Other factors being equal, the shorter the farrowing, the better. Several scientists have studied farrowing intervals and duration, but none has estimated heritability or repeatability for these traits.

Experimental Procedure

Farrowing duration, birth sequence, birth weight, and intervals between birth of pigs within litters were measured and compared for Yorkshire and crossbred females. Effects of the traits on weaning weight at 3 weeks, rate of gain in subsequent nutrition trials, and the female's productivity index were evaluated.

Heritability of farrowing duration and of average interval between pigs was estimated. Repeatability of the dam's farrowing duration and within-litter interval between pigs was calculated.

Results and Discussion

KSU's new swine nursery and the weaning of pigs when 21 days old allow 11 farrowings per year rather than six and the opportunity to observe more female swine during farrowing.

Research has revealed that prolonged farrowing reduces litter livability by causing some pigs alive at the start of farrowing to die from suffocation in the uterus. Among intra-partum deaths observed in this study, 82.1% were among pigs in the last one-third of the farrowing, whereas pre-partum deaths were more evenly distributed throughout the litter. Later-born pigs are more likely to have their umbilical cords ruptured, a major cause of the intra-partum deaths. Another problem associated with prolonged farrowing is the likelihood of the placenta becoming detached from the uterus prematurely before all pigs have been born, causing suffocation of unborn pigs.

There has to be later-born pigs in each litter, but reducing farrowing duration should tend to minimize the importance of order of birth.