FARROWING INTERVAL AND PIG PERFORMANCE

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Summary

The average for 1813 farrowing intervals was 16.78 minutes with a standard deviation of 25.37 minutes. Farrowing duration averaged 141.51 minutes, ranging from 11 to 618 minutes. The difference between farrowing intervals for Yorkshire and Yorkshire-Duroc crossbred dams was nonsignificant. Neither season of the year, birth order, sire of the litter nor sex of the pig significantly affected farrowing interval. However, dam of the litter affected farrowing interval in both groups, Yorkshires ($P<.05$) and crossbreds ($P<.01$), as did birth weight ($r=.17$, $P<.01$). Number of pigs born alive and average farrowing interval for the dam were correlated negatively ($r=-.39$, $P<.01$), while the correlation between farrowing duration and number of pigs born alive was .22 ($P<.01$). Consequently, sow productivity index was related negatively with average farrowing interval ($r=-.30$, $P<.01$), but the correlation between farrowing duration and sow productivity index was .16 ($P<.05$).

Heritability of farrowing interval estimated from the full-sib correlation was .18 and that estimated from the paternal half-sib correlation was .05. Repeatability values for farrowing interval were .01 for sires and .08 for dams.

Introduction

Farrowing is one of the most critical stages in the swine production cycle as far as the sow, as well as the pig, is concerned. Problems that can arise often cause death or reduced efficiency in the sow and/or the pigs. The objectives of this study were to determine the effect of farrowing interval and duration on pig performance and sow productivity.

Experimental Procedure

Farrowing duration, birth sequence, birth weight and intervals between pigs were measured and recorded for 217 litters out of Yorkshire and Yorkshire x Duroc crossbred females. Effects of these farrowing traits on weaning weight at three weeks and the sow's productivity index were evaluated.

Heritability estimate for the dam's average farrowing interval was estimated from full-sib and half-sib correlations. Repeatability for sire progeny groups and that for dam's within litter farrowing intervals were calculated.

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Results and Discussion

Means, standard deviations and ranges for farrowing interval, birth order, birth weight and 21-day weaning weight are shown in Table 1. The earlier born pigs tended to be larger than later born pigs in the same litter (r=-.05, P<.05), table 2. The birth of larger pigs was preceded by a longer farrowing interval (P<.01) than that of smaller pigs and the larger pigs were heavier at weaning.

A shorter average farrowing interval meant more pigs born alive (r=-.39, P<.01), while the correlation between farrowing duration and number of pigs born alive was .22 (P<.01).

Since average farrowing interval is associated negatively (P<.01) with number of pigs born alive, litter 21-day weaning weight and consequently, sow productivity index, and since the trait appears to be at least partially heritable, it could be a criterion considered in a sow selection program. This is especially true in swine operations where someone is present in the farrowing house and is able to record the times when the first and last pigs in a litter are born.

Table 1. Means, Standard Deviations and Ranges for Farrowing Interval, Birth Order, Birth Weight and 21-Day Weaning Weight

Variable	N	Mean	S. D.	Range
Farrowing interval, min.	1813	16.78	25.37	0 - 432
Birth order	2214	6.04	3.56	1.00 - 17
Birth weight, kg	2138	1.34	.73	.59 - 2.55
21-day weaning weight, kg	1716	4.65	3.43	1.80 - 9.36

Table 2. Correlation Coefficients of Farrowing Interval, Birth Order, Birth Weight and 21-Day Weaning Weight

	Farrowing interval	Birth order	Birth weight	21-day weaning weight
Farrowing interval, min.	1.00	-.02	.17**	.02
Birth order		1.00	-.05*	-.03
Birth weight, kg			1.00	.40**
21-day weaning weight, kg				1.00

*(P<.05)
**(P<.01)