The Effect of Number of Pigs Farrowed Per Litter On Number Weaned, Birth Weight and Weaning Weight

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Procedure

Litter records in the Oklahoma Swine Breeding Project[1] were summarized to study the relation between litter size farrowed and birth weight and weaning performance. During the period from 1952 through 1959, records were available on 725 litters from line OK8, OK9 and 8x9 sows at the Ft. Reno and Stillwater stations. Line OK8 (Duroc) gilts farrowed 125 crossbred litters sired by OK9 boars. Line OK8 sows farrowed 102 purebred litters. The average inbreeding in line OK8 in this study was about 5 percent. Line OK9 (Beltsville No. 1) gilts farrowed 151 crossbred litters sired by OK8 boars. Line OK9 sows farrowed 100 purebred litters. The average inbreeding in line OK9 was 19 percent. 8x9 gilts farrowed 247 crossbred litters sired by line OK14 (Hampshire) boars.

The data were sorted on the basis of the number of pigs farrowed (alive and dead) and then the average number of pigs weaned per litter, birth weight and weaning weight per pig and per litter were computed for each size of litter farrowed. The results are summarized in Table 1.

Table 1.—The Effect of Litter Size Farrowed on Litter Size Weaned, Birth Weight and Weaning Weight.

No. Far. per Lit.	No. Lits.	Farrowing Data		Weaning Data		
		Pig Wt.[1]	Lit. Wt.[1]	Pig Wt.[1]	Lit. Wt.[1]	No. Wnd. Per Lit.
1	5	2.58	2.6	42.0	62	.8
2	7	3.32	6.2	43.5	42	1.4
3	25	3.29	9.9	46.9	131	2.8
4	19	3.31	13.2	45.3	163	3.6
5	25	3.22	16.1	43.8	197	4.5
6	30	2.98	17.9	41.9	193	4.6
7	35	3.21	22.5	43.9	255	5.8
8	53	3.02	24.2	41.4	278	6.7
9	67	2.97	26.7	39.0	285	7.3
10	99	2.81	28.1	38.5	300	7.8
11	118	2.64	29.1	37.1	301	8.1
12	103	2.56	30.8	37.6	297	7.9
13	62	2.55	33.2	37.5	300	8.0
14	45	2.48	34.7	37.0	299	8.1
15	18	2.41	36.3	36.1	281	7.8
16-18	14	2.30	37.4	38.5	269	7.0
Ave. 9.94		2.71	27.0	38.7	272	7.02

[1] All weights are in pounds.

[1] This is a cooperative project of the Oklahoma Agricultural Experiment Station and the Regional Swine Breeding Laboratory, Agricultural Research Service, U. S. Department of Agriculture.

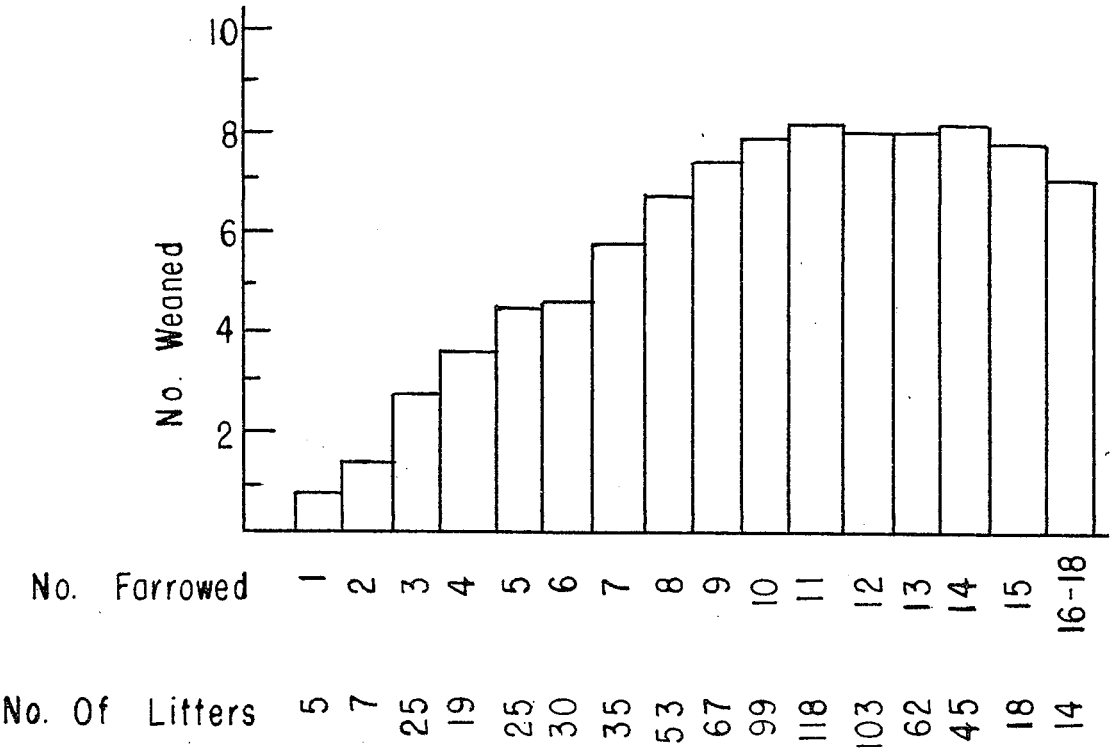

Figure 1.—The relationship between litter size at farrowing and litter size at weaning.

Results and Discussion

As was to be expected the total birth weight of the litter increased with the number of pigs farrowed in the litter. Birth weight of the individual pigs, however, was largest in the smaller litters of 2 to 7 pigs and decreased as the litter size increased beyond 7 pigs.

The number of pigs weaned per litter increased as the number of pigs farrowed increased to a maximum of about 8 pigs weaned from litters of 11 to 14 pigs farrowed (Figure 1). Litters of 15 to 18 pigs farrowed resulted in fewer pigs weaned than litters of 11 to 14 pigs farrowed. Litter weaning weight at 56 days was maximum for litters of 10 to 14 pigs farrowed. Individual pig weaning weights were maximum in the smaller litters, but weaning weights were generally satisfactory even in the largest litters farrowed.

Although the amount of data on litters of 15 to 18 pigs farrowed are somewhat limited, they suggest that maximum weaning performance is not obtained in the extremely large litters farrowed. This is probably because of the higher mortality in these large litters due to the smaller birth weight of pigs and limitations of sows in nursing large litters. Litters of 11 to 14 pigs farrowed, in these data, gave optimum numbers of pigs and weight of litter at weaning.