

PRODUCTIVITY EFFICIENCY OF FEMALES HAMPSHIRE AND DUROC

IN PURE AND RECIPROCAL CROSSES, FOR OFFSPRING AND REPRODUCTIVE TRAITS

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One of the main factors that improves swine production is the utilization of a crossbreeding system, each cross of different breeds or genetic lines gives a specific mean performance, there has been abundant research published in relation with crossbreeding systems, however, a different environment could affect the performance of the crosses, and in Mexico there had been very few research on the performance of pure breed animals in crosses.

The main objective of these research was to measure the efficiency of production of females Hampshire (H) and Duroc (D) in pure and reciprocal crosses in a experimental farm (FMVZ UNAM) in the Mexico City Valley.

The estructure of the population used for the experiment is described in the following table.

Male Breed	n	Female Breed	n	Genetic Group	Offspring Number
D	3	D	20	D x D	205
D	3	H	12	D x H	80
H	2	D	18	H x D	166
H	2	H	26	H x H	153

Two complete cycles were followed and the performance recorded

The mean reproductive performance for Duroc and Hampshire females for days to first service, number of services, days from weaning to effective service, farrowing interval and days open were respectively: 11.46, 19.88; 1.21, 1.17; 11.57, 21.20; 154.46, 158.21; 41.61, 50.96.

The mean productive performance for Duroc and Hampshire females for litter size at birth, litter size at weaning (28 days), litter weight at birth, litter weight at weaning were respectively: 8.96, 7.33; 6.76, 6.27; 13.38, 11.04; 42.01, 41.62.

The mean productive performance for DxD, DxH, HxD and HxH crosses for litter size at birth, litter size at weaning, litter weight at birth, litter weight at weaning were respectively: 9.12, 8.83, 6.73, 7.54; 6.36, 7.33, 6.20, 6.36; 13.29, 13.69, 10.60, 11.16; 38.86, 46.81, 42.77, 41.51.

The mean offspring performance for DxD, DxH, HxD, and HxH for birth weight, weaning weight, 70 day weight, 154 day weight were: 1.47, 1.51, 1.53, 1.60; 6.09, 7.30, 6.40, 6.53; 17.96, 19.27, 17.75, 18.50; 70.34, 67.73, 69.61, 60.42. and for 180 days were: 91.96, 98.00, 92.50, 74.79.

The heterosis for litter size at birth, litter size at weaning, litter weight at birth, litter weight at weaning, birth weight, weaning weight, 70 day weight, 154 day weight, and 180 day weight were respectively

-6.60%, 6.45%, -0.65%, 11.45%, -1.30%
8.56%, 3.64%, 5.26%, 14.79%.

Crossbreds were better on litter size at at weaning, litter weight at weaning, and in individual weights from weaning to 180 days. Usually you will not expect heterosis on weight after weaning but in this case we observed an increase in the percentage of heterosis as the pigs grow, it may be due to the adverse conditions. The slow grow of Hampshire has been reported in the litterature.

Selected references: Dillard, E.U. and Robison O.W.. 1968. . Crossbreeding Swine. North Carolina Agr. Exp. Sta. Bull. 432.; Fahmy, M.H. and W.B. Holtman. 1977. Crossbreeding Swine in Canada. World Review of Anim. Prod. 13:9. ; Quintana, F.G.. Crossbreeding Systems in Swine. Ph. D. Thesis, Department of Animal Science, North Carolina State University, Raleigh. ; Quintana, F.G. and Robison, O.W. 1980. Efectividad del cruzamiento de razas en cerdos. Vet. Mex. 11:23. Sellier, P. 1976. The basis of Crossbreeding in pigs, A review. Livestock Prod. Science 3:203.