

# RESEARCH IN PROGRESS

## Evaluation of an Index for Boar Selection

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A study was initiated in the summer of 1979 to evaluate the boar test station index recommended by the National Swine Improvement Federation:  $I = 100 + 60(G - \bar{G}) - 75(F - \bar{F}) - 70(B - \bar{B})$  where I = index value; G = average daily gain; F = pounds of feed per pound of gain; B = average backfat at 230 pounds;  $\bar{G}$ ,  $\bar{F}$  and  $\bar{B}$  are the within-test averages for the traits.

The index has a mean of 100 and an expected standard deviation of 25. This results in 68 percent of the boars having an index between 75 and 125.

Boars will be purchased in pairs from test stations that measure all three traits in the index. Each pair will include one boar with an index over 120 and one with an index below 90. During the first two seasons 12 Hampshire boars will be purchased and mated with crossbred gilts. Gilts sired by the Hampshire boars will be bred to 12 Duroc boars during each of the last two seasons.

At the present time both sets of Hampshire boars and one set of Duroc boars have been purchased. Average performance of these boars is presented in Table 1.

Progeny of these boars will be tested from 9 weeks until they reach 220 lb. They will be penned by sire groups so that feed intake can be measured and feed efficiency calculated. When they reach 220 lb, backfat thickness will be measured, and one barrow from each litter will be slaughtered for carcass evaluation. These progeny from high and low indexing boars can be compared to evaluate the effectiveness of the index as a tool for selecting boars.

Table 1. Average performance of tested boars<sup>a</sup> used to compare high and low indexing boars

Season	Breed	High indexing boars				Low indexing boars			
		Average daily gain lb/day	Lb feed per lb gain	Backfat thickness in.	Index	Average daily gain lb/day	Lb feed per lb gain	Backfat thickness in.	Index
Fall 1979	Hampshire	2.27	2.34	.73	131.1	1.80	2.62	.74	82.7
Spring 1980	Hampshire	2.19	2.55	.69	128.3	1.87	2.84	.71	87.5
Fall 1980	Duroc	2.27	2.25	.77	136.7	1.91	2.59	.87	82.9

<sup>a</sup>Boars purchased at test stations in Oklahoma, Nebraska, Missouri and Iowa.