

EVALUATION OF THREE- AND FOUR-BREED CROSS LITTERS AND PIGS Sired BY PUREBRED AND CROSSBRED BOARS

M. H. FAHMY

Research Station, Agriculture Canada, Lennoxville, Québec J1M 1Z3, Canada

AND

W. B. HOLTMANN

*Department of Animal Science, Laval University, Ste-Foy, Québec G1K 7P4,
Canada*

SUMMARY

Boars from four pure breeds and three two-breed crosses were mated at two stations to sows from six two-breed crosses to produce three- and four-breed cross litters. Two types of three-breed crosses were produced either using purebred boars or by partial backcrossing using crossbred boars. From the 504 litters produced 965 male pigs were slaughtered at 90 kg live weight. The purebred boars produced litters which were 0.4 and 0.2 pigs larger and 0.14 and 1.14 kg heavier at birth and 21 days respectively than the crossbred boars. Differences between pigs sired by purebred and crossbred boars were negligible for growth rate and carcass quality. Little difference was also found between three- and four-breed cross pigs sired by crossbred boars (except for daily gain, $P < 0.05$). Breed of dam was a significant source of variation on all the traits except dressing-out percentage. Significant breed of sire effect was found on all the traits related to carcass quality but not on those related to growth. Breed of sire \times breed of dam interaction was significant on backfat thickness, carcass lean yield percentage and average daily gain. The best crosses in carcass value were those of Duroc boars mated to Hampshire-Landrace and Landrace-Yorkshire sows, while those pigs with the fastest gain were from Landrace boars \times Duroc-Yorkshire sows and Duroc-Yorkshire boars \times Large Black-Lacombe sows.

INTRODUCTION

IN crossbreeding schemes, more attention has been given to the female side than to the male side, in view of the accumulated evidence of the superiority of the crossbred adult females (sows) in the traits related to fertility and to a lesser extent in those related to the efficiency of producing high quality pigs for slaughter. Unfortunately, our knowledge is very limited on the performance of crossbred adult male pigs (boars) but they are generally considered to be more vigorous and hardy, and theoretically they should possess greater libido, higher fertility and longevity than purebred boars. With crossbred boars it may be possible to obtain a greater number of sires with