

## GROWTH RATE, FEED CONVERSION RATIO AND CARCASS TRAITS OF CHAROLAIS $\times$ HOLSTEIN-FRIESIAN AND HEREFORD $\times$ HOLSTEIN-FRIESIAN STEERS SLAUGHTERED AT THREE DIFFERENT WEIGHTS

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### SUMMARY

Thirty one-year-old Charolais  $\times$  Holstein-Friesian (CH) and Hereford  $\times$  Holstein-Friesian (HH) steers averaging about 268 kg live weight were used to study the effect of increasing slaughter-weight from the traditional 454 kg (1000 lb) to 544 and 635 kg (1200 and 1400 lb) live weight. The steers were fed a growing ration of grain, silage and hay until they weighed 68 kg (150 lb) below the assigned slaughter weight, followed by a finishing ration of grain mixture and maize silage given *ad libitum*. Average daily gain on the growing ration was 0.91 kg in CH, 14% higher than that in HH steers, while on the finishing ration HH steers, finished at 544 and 635 kg, made higher gains. CH steers were 7.9% more efficient than HH steers in feed conversion. Feed conversion efficiency (total dig. nutrients (kg) per kg live-weight gain) decreased by 10% and 19% respectively as slaughter weight increased to 544 and 635 kg. Live measurements showed that CH steers were generally longer, taller and wider at the hip, whereas HH steers had a greater depth of chest and width of shoulder. CH steers, slaughtered at different weights, had a higher percentage of round and shank, while HH steers had a higher percentage of all other wholesale cuts. Carcass measurements were generally higher in CH than in HH steers. CH steers had a higher percentage of muscle and bone, and lower fat, in the 12th rib. They also had larger areas of *m. longissimus thoracis*. Fat deposition over and in that muscle was much higher in HH than in CH steers. Under the conditions of this study, 544 kg was found to be the optimum slaughter weight for both groups. Slaughtering steers at 635 kg was found to be economically disadvantageous.

### INTRODUCTION

THERE has been a recent trend in Eastern Canada to inseminate dairy cows, especially the Holstein-Friesian, with semen from French beef breeds, mainly the Charolais, Maine-Anjou and Limousin. The female calves produced from these matings are used in beef herds as brood cows to produce three-breed-cross market animals, while the males are marketed as castrates (steers) of about 454 kg (1000 lb) live weight. In view of the continual increase in demand for beef and the fact that French beef breeds, and their crosses when slaughtered at lighter weights, are relatively low in finish grade for