

CANADA'S BREED

IMPROVEMENT PROGRAMS

The objective of Canada's Herd Performance Testing Program is to genetically improve the population for traits of greatest economic importance. Performance testing of these traits is a process that distinguishes genetic differences among animals by measuring the performance of an individual or an individual's offspring. In the first case, genetic differences are identified by the relative difference of the individual's performance compared with its contemporaries. In the latter case, an individual is evaluated genetically by the performance of its progeny compared with progeny of other bulls or cows. The individual performance test is generally favoured for traits that can be easily measured and have relatively high heritability. The individual performance test also allows more rapid

genetic evaluation. The progeny test is useful for the evaluation of imported or other untested bulls and for the evaluation of traits of low heritability. It can also serve to monitor the performance of calves of previously proven bulls and over the years to provide more accurate information on sires.

Canada's Herd Performance Program for beef cattle encompasses four levels of testing: sire evaluation, herd performance, bull test and progeny test. The overall governing body of Canada's performance program is the National Advisory Board for Beef Cattle Improvement. It includes federal and provincial government personnel, purebred and commercial producers, and researchers and representatives from other segments of the beef cattle industry, such as meat packers.

HERD PERFORMANCE

A number of herd performance programs currently operate in Canada. While the programs differ in name and administration, they perform essentially the same functions, that is, to evaluate the performance of animals in a producer's herd. These programs provide producers with an objective basis for within-herd selection of both male and female breeding stock. In smaller herds, they pertain primarily to the selection of females, as male selection is much more limited.

The traits that are recorded and evaluated on herd performance programs are as follows:

1. MATERNAL AND REPRODUCTIVE TRAITS

- calving interval
- cow defects
- calving ease
- calf condition at birth

2. GROWTH TRAITS

- birth weight
- adjusted 200-day weight
- average daily gain (birth to weaning)
- average daily gain (on 165-day feeding period)
- adjusted 365-day weight