

Swine.—The ROP program for swine began in 1928 as "The Advanced Registry for Swine" in line with the hog-grading activities initiated in 1922. Over the years, the swine-testing program was modified to retain a practical approach to the situation as it changed within the industry. In 1957 the Advanced Registry Board, under which it operated, was dissolved and the Department of Agriculture took on the function of operating the policy as ROP for swine. At the same time home testing (testing at the premises of the breeder) was reinstated in an endeavour to accelerate testing activity. As a result, swine testing increased annually and in 1965 a 5-p.c. increase over the previous year was registered when 355 breeders tested 1,519 groups of four pigs, as required in the ROP test.

The most recent significant change was a revision applicable to pigs born after Jan. 1, 1965 which altered both the measurements used to assess the carcass and the terms in which carcass merit was reported. The new carcass appraisal included, for the first time, assessment of the ham muscling and excluded, for the first time, assessment of the belly bacon. Reports issued on groups tested prior to 1965 were made in terms of a score calculated from specific measurements taken on the carcass. The new method entails a prediction of the lean content of the four major wholesale cuts from the hog as a means of estimating the salable content of trimmed carcass. Pre-1965 test results were based on maximum scores being provided for intermediate rather than maximum measurements. As a result, optimum carcass scores were given for intermediate measurements since no credit was provided for measurements in excess of that receiving the maximum point score. Under the new system, full credit is given for the actual measurements taken which are included in the calculation of percentage yield of trimmed cuts, thus permitting the assessment of swine carcasses relative to their merit in the meat trade.

A new system of reporting tests has been developed to provide current results to breeders more promptly. Weekly reports go forward to all ROP breeders giving test results across the country. An abbreviated report on the top-performing 15-20 p.c. of the matings tested each week is provided to the industry through the *Livestock and Meat Trade Report* and press channels; it includes an index combining the assessment for yield of trimmed cuts and the maturity of the test group.

The ROP program for swine has been adopted as the basis for the establishment of Elite Herd Policies within the provinces. This development has been fostered by the Canadian Federation of Agriculture through swine conferences held in 1964 and 1965, and represents a tangible use of ROP for swine improvement on a herd basis.

Investigation and Study of New Developments.—In the field of dairy cattle production, activity in recent years has been directed to the development of a practical field system of testing for solids-not-fat in milk. The Livestock Division maintained a joint operation with the Ontario Agricultural College to assess the feasibility of routinely testing milk for all constituents. Various methods were tried over a five-year period, one of which—an automated method adaptable to electronic data processing (infra-red milk analysis)—was found to be highly successful, although detailed results are not yet available.

The sire appraisal work for dairy bulls in AI centres began as a pilot project but now constitutes a major part of ROP. Beef bull progeny testing also began as a pilot project, as did the station testing of beef bulls. Now both these facets of beef testing are specific functions within the ROP operation. A pilot project to assess the validity of testing sires through veal calves is under way. A pilot project to determine the feasibility of operating a bull test station in the Maritime Provinces is also being investigated.

In swine production, investigations have been made into the merit of specified cross-breeding practices on a large scale. In trials, three-way crossbred pigs were found to produce 26 p.c. more pounds of carcass at 180 days of age than did purebreds. The 26 p.c. was the combined difference in pounds due to larger litters, better livability, and faster growth. In addition, the percentage of Grade A pigs was higher among the crossbreds