

of chromium and in the nature of the chromic-oxide dose, explosive capsules being used to favour greater distribution in the rumen.

In the course of the work it was found that dry matter of fæces was lost if they were kept moist and unpreservatized. Losses were probably due to growth of moulds. Toluene was found to be the best preservative. Dyed polystyrene and copper phthalocyanin have also been tried as markers.

PIG RESEARCH

(1) *Inbreeding Studies with Large Whites*.—The inbred strain of Large Whites established at the Station two years ago is now progressing satisfactorily. In the first season most of the possible defects normally experienced in inbreeding appeared in the strain—anal atresia, cryptorchidism, scrotal hernia, defective feet. Selection and test mating have aimed at eliminating these. An inbreeding coefficient of approximately 30 per cent. has been maintained, and present indications are that some progress has been made in the reduction of defects mentioned. Further test matings of brother-sister combinations are required to verify this.

(2) *Relative Efficiency of "Wild" and "Improved" Strains*.—Some interest attaches to the degree of improvement that has been effected over the past one hundred years in pig stock. The visit of New Zealand Forces to the Auckland Islands during the war made it possible to obtain a wild boar from this area. Records indicate that British pigs were released on uninhabited islands here approximately ninety years ago and that no further importations were ever made. Matings of this animal with New Zealand wild sows have produced a "wild" strain of pigs. The performance of these has been compared with the progeny of Large White $\times$ New Zealand wild sow matings. The "wild" pigs required 347 days to reach 200 lb. live-weight; the half-wild, 241 days. The latter contained 11 per cent. more bone, 11 per cent. more muscle, and 28 per cent. less fat than the "wild." Organ weights were uniformly greater in the half-wild animals. Comparisons with "improved" animals are in progress. This study is of special interest to pig-improvement work.

(3) *Feeding Value of Candle-nut Meal*.—In view of available supplies of candle-nut meal from the tropics and the general shortage of concentrates in New Zealand, the suitability of this product for pig-feeding has been examined. On analysis, the meal has the characteristics of a 40 per cent. protein concentrate, and its fat content is high. On test with 4 pigs it was found to be extremely unpalatable, and was not consumed in sufficient quantities to maintain body weight of young growing pigs, even when mixed with barley-meal. This lack of palatability affected total intake adversely at both a 50-per-cent. and 25-per-cent. level with barley-meal. At both levels of feeding, severe scouring of pigs resulted after some days on the mixture. It is indicated from this admittedly limited experience that the meal is not a very satisfactory food for pigs.

(4) *Relationship of Body Conformation to Heart and Lung Capacity*.—In view of the great difficulty experienced in persuading breeders to decrease the depth and increase the length of the pig, a study of the relationship between chest depth, chest girth, body length, and the development of the thoracic organs—lungs, heart, &c.—is being made. Breeders commonly believe that decreasing chest depth in relation to length restricts heart and lung capacity and reacts adversely on constitution. Preliminary data are being analysed.

(5) *Development of Pork-judging Standards*.—In co-operation with meat trade and National Pig Industry Council interests, a method of evaluating the porker carcass on a basis of measurements has been developed. A standard system for judging has been tried out on an extensive scale with satisfactory results. This has been accepted by the National Pig Industry Council as the official judging system, and the details will be published shortly. This method is likely to have some value in promoting our export pork trade.