The pedigree index for milk has also been combined with the growth rate index. The purpose of the combined index is to enable a simultaneous selection of young AI bulls to be made for these two traits.

The value of the combined index as a tool for the selection of performance-tested young bulls is dependent on the efficiency of the prior pedigree selection for milk production. The combined index was calculated on 62 performance-tested bulls. The pedigree index for milk production had, in this material, a greater influence on the value of the combined index, than had the index for growth rate. In both materials used, the bulls showed considerable variation in pedigree index values. The findings indicate that a combined index should be used for the selection of performance-tested bulls going into AI service.

A NOTE ON THE EFFECT OF HERD PRODUCTION LEVEL AND HERD × SIRE INTERACTION ON THE ESTIMATION OF BREEDING VALUES FOR AI BULLS

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According to several authors, the genetic variation is greater at a higher level of production than at a lower. Breeding values estimated at a higher production level may therefore differ from those estimated at a lower level. This difference may in turn affect the ranking of the sires if their daughters are distributed at various production levels. From the linear moder $Y_{ijk} = \mu + h_i + s_j + (hs)_{ij} + e_{ijk}$, where the different genetic variation is represented by the interaction term, it is possible to calculate how great the difference in herd level between two groups of daughters will have to be in order to affect the ranking. When the daughters are randomly distributed among herds, the differences in herd production level between sires are too small to affect the ranking. Under Swedish conditions this is the case within the AI studs. However, the test bulls are not used outside their own AI stud and as there are geographical differences in production levels, the fact that the genetic variation is higher at a higher production level may affect the comparison of bulls from different studs.

SOME PROBLEMS IN DETERMINATION OF BULL'S BREEDING VALUES

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This work studies the problem of the making of the rank list of the breeding bulls tested according to the productivity of the daughters for milk and milk-fat quantities. Five bulls of the black-white race were investigated and the test was made by the method CC, twenty in all, with 14. days control, while the calculation was made for 100, 200 and 305 days.

In cider to avoid incorrect calculations only cattle with at least 305 days lactation were taken into account.

The results show that at the first rank list (100 days of lactation) the positive and negative variants are being distinguished, while the same cattle retain the same places up to the end of the control i.e. 305 days of the lactation. In the other intervals of the milk quantity control the order is changed but this change is not so high for the milk-fat quantity. Therefore we think it is more reliable to make a rank list according to the total milk-fat quantity in any interval of the test. The investigations show that it would be certain even with only 100 days control, which is necessary for the test of the young bulls going to be artificially inseminated.

II. — Efficacité économique des programmes de sélection porcine

EFFICACITÉ ÉCONOMIQUE DES PROGRAMMES DE SÉLECTION PORCINE : INTRODUCTION

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L'efficacité économique de la sélection porcine dépend en premier lieu d'une définition adéquate de ses objectifs, qui sont multiples, et de leur importance relative. Cette définition, qui dépend des conditions économiques propres à chaque pays, est la base de l'établissement des indices de sélection.