

- b) The world collections of lines of maize are evaluated with regard to their capability of stabilizing pollen sterility, or, on the other hand, of renewing pollen fertility with various sources of sterile pollen, for the purpose of their utilization in hybrid combinations.

The results achieved hitherto are utilized, in co-operation with a team of scientific workers and growers, for combining productive hybrids adapted to the climatic conditions of Czechoslovakia.

E. Javorek

4. The study of the methods of improving maize.

In this sector of work several methods of improving maize mainly with material of domestic provenience are investigated and checked. The effectiveness of these methods and the substantiation of their introduction into the practical improvement program are evaluated. The possibility of a suitable synthesis of the elements of several methods of improvement for the purpose of increasing the effectiveness and of shortening the time required for the improvement of lines is being examined.

In a further part of the work data are collected for the critical evaluation of the methods of early testing of lines as methods of predicting the combining ability of the lines prior to their transition to homozygosis, and also the effectiveness of the application of these methods in improvement work is being checked.

Besides this also the possibility of utilizing the results of the examination of the general combining ability for the study of the special combining ability and for the prediction of the likely value and composition of double line hybrids is being investigated and elaborated. These investigations are carried out by a number of scientific workers and growers in Czechoslovakia. The work connected with the complex of the tasks of the study of the methods of maize improvement is carried out in close co-operation and co-ordination with a team of workers investigating the theory of combining ability.

A. Plovárčí