

1. The frequency of chlorophyll-defective seedlings in varieties of maize as a measure of close hybridization.

The frequency of white, yellow, and white-and-yellow-striped seedlings in farmer's fields planted with indigenous varieties, in valleys of Yugoslavia enclosed by mountains, has been studied. The investigations have been made in 72 climatically different places and on many hundreds of different ecotypes. The number of chlorophyll-defective seedlings has varied from 3 to 87 among 1000 seedlings in single varieties. The frequency of chlorophyll-defective seedlings is greater: (a) on the smaller fields, i.e., those belonging to small farmers, and (b) on fields planted with kernels from a few selected ears. From the varieties with a greater frequency of defective seedlings, it was possible after a few years of self-fertilization, to obtain inbreds in which the genetical variation was very low. It seems that the frequency of chlorophyll-defective seedlings can be taken as a rough measure of closeness of inbreeding.

A. Tavcar