YIELD AND COMPOSITION OF EARED AND EARLESS MAIZE PLANTS IN A SELFED LINE SEGREGATING BARREN STALKS

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DURING the summer of 1934 a selfed strain isolated from Boone County White corn was observed to contain red-leaved plants. Closer examination showed that all the red-leaved plants were earless or barren. In the culture there was a total of 54 eared plants and 26 that were barren. This same strain was planted in 1935 and of the resultant plants 68 were eared and 25 were earless. These data indicate monohybrid segregation and suggest that the hereditary difference between the two types of plants involves only a single gene. This particular culture by 1934 had been selfed for 13 years. It is not known when the mutation occurred, but cultures grown from remnant seed of previous years showed it to have been segregating at least two generations earlier. With the exceptions to be discussed later, the eared and earless plants were very similar in general appearance, the differences becoming apparent after the ear shoots had appeared. On earless plants the normal concavity of the internodes is completely lacking or only slightly developed. In two cases earless plants produced tillers and in both cases these tillers also bore small ears.

In 1934, Brunson and Latshaw of Kansas reported on the effect of failure of pollination on composition and yield of corn plants. These authors included a review of the pertinent literature. In the Kansas...