Studies of Various Characters of Six-rowed Segregates from Crosses between Two-rowed and Six-rowed Barleys

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HARLAN, Martini, and Stevens (1) in 1940 studied 149 crosses between two-rowed and six-rowed varieties of barley. They observed that the full size of the lateral kernels of the six-rowed parents was seldom recovered in the six-rowed segregates and suggested that the small laterals usually produced might adversely affect yield.

From this it would appear that the use of two-rowed varieties in crosses aimed at development of good six-rowed malting varieties might hold very little promise, since yield is paramount in the eyes of the farmer and uniformity in kernel size is desirable from the standpoint of the malting industry. The objectives of the present study were (1) to compare certain characters of the two-rowed segregates of two crosses between two-rowed varieties with the same characters of six-rowed varieties and (2) to find the interrelationships of these characters.

MATERIALS AND METHODS

Eighty-four F₁, six-rowed lines from the cross Mars × Spartan and 41 from Spartan × Minnesota II–34–35 were planted in each of two blocks of 10-foot rows in the field in 1945. One parent, Spartan, is a two-rowed variety, and Mars and Minnesota II–34–35 are six-rowed. The well-known six-rowed varieties, Wisconsin Barbless, Manchuria, Peatland, Kindred, and Velvet, were included once in each block. Mars was planted at intervals of 15 rows and Spartan at intervals of 30 rows.