SPACING EXPERIMENTS WITH CORN

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IN IOWA, corn is commonly check planted in hills spaced about 42 inches apart in rows of the same spacing. Planting rates vary from two to four plants per hill. Less frequently corn is drilled using the same row spacings. In general, drilled plantings produce slightly larger yields, but the differences are not great. Little work has been reported on row spacings closer than normal. Hume, Center, and Hegnauer reported data in 1908 indicating a slight superiority of 33 X 33 inch over 44 X 44 inch spacing of hills in northern Illinois at both the two- and three-kernel planting rate. In central Illinois the same relation held for the two-kernel planting rate but was reversed when three kernels per hill were used.

In recent years there has been considerable interest in the possibility of increasing corn yields by planting in rows spaced only 21 inches apart. Some farmers who have tried this practice have reported obtaining considerable increases in yield. In preliminary trials the Agricultural Engineering Section, Iowa Agricultural Experiment Station, cooperating with the Bureau of Agricultural Chemistry and Engineering, U. S. Dept. of Agriculture, compared yields from two hill spacings, viz., 21 X 21 inches, 1 plant per hill and 42 X 42 inches, 4 plants per hill. Larger yields were obtained from the 21-inch spacings.

The results presented here were obtained during a four-year period and include a number of different spacings with several hybrids.

MATERIAL AND METHODS

The experimental designs, strains, and spacings of the hills within the rows have varied somewhat from year to year. The row spacings of 21 and 42 inches have been used each season. Spacings within the rows have ranged from 42 to 10.5 inches and the number of plants per hill from one to four. All plots were completely bordered to reduce competition effects. Plantings in 1936 were made at double rates and the plants later thinned to the desired stands. In later years the plantings were made at the desired rate and no thinning was done. The detail of each experiment is presented with the data.

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