THE CONTRAST IN RESPONSE OF KAFIR AND MILO TO VARIATIONS IN SPACING

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The grain sorghum crop in the United States is becoming of such magnitude and importance that investigators working with the crop are eagerly seeking means and methods of increasing yields. The objects of the investigations reported here were to determine, first, the optimum distance between plants in the row for kafir and milo, and second, to discover the nature of the relationship existing between various degrees of spacing and grain yields in these two most widely grown varieties of grain sorghum. The contrasting response of these two grain sorghums to different spacings in the row, as affecting yields and tillering, are also pointed out, and the effect that such widely different varietal reactions can have on the accuracy of other investigational work involving different varieties is indicated.

Agronomists working with other crops have determined fairly well the best varieties, rates of seeding, dates of seeding, and the best cultural practices for various regions and have made possible increases in the general yield levels. The underlying and fundamental reason why some varieties, methods, or practices are superior in some of the older crops has been determined. In the case of the grain sorghums, much more intensive and well-planned work must be done on rather simple agronomic problems before adequate data are available as a basis for sound recommendations. Field experiments, for example, to determine the response of different varieties to various rates and dates of planting are almost necessary before adequate interpretations can be made of plat work already done in variety testing, rate of planting, and date of planting and before such interpretations can have a general application. A plan of field experiments inclusive of the many varieties, the necessary range of rates of planting or row space, and of dates of planting, together with sufficient replication of the plats, involves a large amount of land and a great deal of labor, both of which are not always available. Sorghum varieties have been developed to cover a wide range of uses and conditions. Their chief use and adaptability may be strictly grain production, dual grain and forage, strictly forage, or they may be grown for other purposes, such as the brush in broom corn. Varieties within a single group, such as

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