EFFECT OF SPACING ON YIELD AND SIZE OF COTTON BOLLS

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The spacing of cotton is an important problem in economical production. The present method of thinning and cultivating cotton by hand labor is very expensive. If cotton could be planted so that it could be cultivated by machinery, the cost of production would be greatly reduced and the margin of profit increased. To know the number of cotton plants required per acre to produce the maximum yield would be of considerable advantage also in comparing yields from experimental plats, since perfect stands are seldom obtained.

A cotton spacing experiment has been conducted at the Alabama Experiment Station on fertilized and unfertilized soil for three years to determine the effect of spacing on the yield and size of bolls.

METHODS

All plats of the experiment were run in duplicate. The rows on all plats were 3½ feet apart. The seed was planted by hand under a wire line measured and marked for each spacing in the drill. The plants were thinned by hand at the usual time to the required number per hill. One, two, three; and four plants per hill were left at spacings of 6, 12, 18, 24, 30, and 36 inches in the drill. One-half of each plat was left unfertilized and the other half received 600 pounds of superphosphate (acid phosphate), 50 pounds of muriate of potash, and 300 pounds of nitrate of soda per acre. No attempt was made to control the boll weevil during the course of the experiment.

RESULTS

YIELDS OF SEED COTTON

The distribution and amount of rainfall during the three seasons 1924 to 1926 were widely different. Throughout the season of 1925 the rainfall was far below normal and very small increases in yield were obtained from the heavy application of fertilizer. The growth of the plants on all plats in 1925 was very small, reaching about half the size obtained in 1924 and 1926. The amount of rainfall during the growing seasons of 1924 and 1926 was about the same, but the distribution was considerably different. The first half of the growing season of 1924 had much more rainfall than the same period in 1926, and vice versa for the last half of the growing season. The wet

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