THE EFFECT OF VARIETY, PLANTING DATE, SPACING, AND SEED TREATMENT ON COTTON YIELDS AND STANDS

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Experimental data are available on various factors affecting cotton yields and stands where these factors have been studied singly. The work reported here was done with the view of not only determining the highest yielding variety, the best planting date, the optimum spacing of the plants in the row, and the value of treating the seed with Ceresan for the climate and soil (Cecil series) of central Georgia, but also of studying the relationships between these factors affecting yields and stands. A multiple-factor field experiment with cotton or other field crops has many advantages over the common or single-factor experiment where only one variable, such as varieties, is studied.

MATERIALS AND METHODS

Five cotton varieties, three planting dates, three spacings (3 years only), and untreated and treated seed were used for the 5-year period of this experiment. All varieties were planted on each date every year, but only one variety, Stoneville 2, was used in the spacing and seed treatment work. The planting dates, as nearly as soil conditions permitted, were made in late March, late April, and late May, or about one month apart. The spacings tested in 1932, 1933, and 1934 were two plants in hills 1 foot apart with all rows 3.5 feet apart, unthinned plants in hills 1 foot apart, and unthinned plants in hills 3 feet apart. The seed treatment used consisted of dusting the ordinary or undelinted seed with Ceresan (ethyl mercury phosphate).

Eight series of plats for each variety, spacing, and seed treatment were planted on each of the three dates. Eight plats were required to the series except during 1930 and 1931 when only six plats were used because the spacing factor was not included. The series were arranged systematically because of convenience in planting. The plats within each series were randomized or arranged by chance. Seven-row plats with rows 35 feet long and 3.5 feet wide were used. Two or more pickings were made each year and boll samples taken at each picking. The lint yields reported are calculated from lint percentages determined by taking 50-boll samples from each plat at each picking rather than from a single lint percentage determined for one picking and assumed to be correct for all pickings. The number of plants and missing hills were determined on all plats at picking time. All plats were dusted from four to eight times with calcium arsenate to control boll weevils. The results in Table 1 are 5-year averages unless otherwise stated.

VARIETAL EFFECTS

The Half and Half, a medium early maturing variety, was outstanding in lint yield for the average of all plantings and seemed to be especially well adapted for medium and late planting. This variety

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