COTTON VARIETY TRIALS IN THE LOWER RIO GRANDE VALLEY, 1960

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SUMMARY

Irrigated cotton variety tests were planted in 1960 on the Lower Rio Grande Valley Experiment Station near Weslaco and the George Harren farm near Progreso. A dryland test was planted on the R. E. Selman farm about 10 miles west of Raymondville. Twenty varieties were randomized and replicated in each test.

In irrigated variety tests, Stoneville 7 produced the highest yield of lint cotton per acre. Delpos, Wescot, Coker 100A (WR), Coker 12t and Acala 44 had a staple length of 1-3/32 inches or longer. In the dryland test, total yield was reduced and staple length was shortened by low rainfall during the growing season.

Irrigated Tests

Twenty cotton varieties were planted on the Weslaco station and on the Harren farm near Progreso on March 8 and 22, respectively. Summaries of these tests are reported in Tables 1 and 2.

The station test was planted on Willacy loam which had a fall cover crop of oats turned under in December. Forty pounds of nitrogen were plowed in with the cover crop. The land was bedded in late January and a 60-80-0 fertilizer application was placed in a vertical band 4 to 12 inches below the middle before the land was rebedded. The test site was irrigated prior to planting. Favorable weather at planting time resulted in excellent stands which were thinned to a 6-inch spacing. This test received post-planting irrigations on June 29 and July 13. Effective rainfall during the growing season amounted to 7.5 inches. At squaring time, 40 pounds of nitrogen (N) were sidedressed to the cotton. Insect infestations were controlled with 10 insecticide applications. The test was harvested on August 13 after the entire crop had opened.

Land preparation on the Harlingen clay on the Harren farm included deep disking and bedding prior to the application of 60-80-0 fertilizer by the same method as used in the station test. The land was then rebedded. This test was planted on March 22 and irrigated to obtain a stand. The cotton was thinned to a 6-inch spacing 4 weeks after emergence. At squaring time, 40 pounds of nitrogen (N) were applied as a sidedressed application. The trials were irrigated on June 7, June 27, July 13 and July 25. Rainfall at the test site during the growing season amounted to almost 10 inches, but its effectiveness was limited by heavy runoff. Effective insect control was maintained with 11 insecticidal applications. The test was harvested in one picking on August 29.
Results of Irrigated Tests

Summaries of agronomic and fiber data recorded are shown in Tables 1 and 2. Stoneville 7 was the highest yielding variety in both tests, but was not significantly superior in production to eight other varieties in the station test and to five other varieties in the Harren test. Nine varieties in the station test and two varieties in the Harren test produced 1,000 pounds or more lint cotton per acre.

The staple length produced was good at both test locations. Delfos had the longest staple, as indicated by the classer's call and the upper half mean length. Delfos, Wescot, Coker 100A (WR), Coker 124 and Acala 44 produced staples which averaged 1-3/32 inches or longer. Sixteen varieties had an average staple length of 1-1/16 inches or longer.

Additional fiber data are included in the summary tables. Fiber quality continues to be of major importance in the marketing of cotton in this area.

Dryland Test

A dryland cotton variety test was planted on the R. E. Selman farm 10 miles west of Raymondville. The Brennan fine sandy loam soil at this test site was deep-plowed in the late summer of 1959. Rainfall during the fall and winter provided adequate moisture for the establishment of stands in the new crop season. The test was planted on March 25. Moisture conditions in the spring were excellent and the cotton made vigorous growth; however, the lack of additional rainfall caused the moisture supply to become limiting during the period of maximum bloom. The continued moisture deficit resulted in greatly reduced yields and shortened the staple length, as shown in Table 3. The total effective rainfall from planting until the crop matured amounted to 4 inches. Two insecticide applications were made during the fruiting period.

Acknowledgments

Appreciation is expressed to David Setter and Warren Nichols of the Wallace Flying Service for applying insecticides to the station tests, and to L. O. Bultman of the USDA Cotton Classing Office at Harlingen for classing the samples. The assistance of R. E. Selman in conducting the dryland variety test is acknowledged.
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<th>Variety</th>
<th>Acre yield</th>
<th>Staple lint, length, 32nd inch</th>
<th>Lint percent</th>
<th>Boll size</th>
<th>UBM length, inches</th>
<th>Mean length, inches</th>
<th>Uniformity</th>
<th>Micronaire</th>
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L.S.D. .05 = 123
L.S.D. .01 = 164

1/ Number of bolls of seed cotton required to weigh 1 pound.
2/ Grams per grex at one-eighth inch gauge length.
3/ Percent of fiber elongation before breaking.
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<th>Variety</th>
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1/ Number of bolls of seed cotton required to weigh 1 pound.
2/ Grams per grex at one-eighth inch gauge length.
3/ Percent of fiber elongation before breaking.
Table 3. Summary of the dryland cotton variety test, R. E. Selman farm, Raymondville, 1960, Brennan fine sandy loam soil

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L.S.D. * .05 N.S.

1/ Number of bolls of seed cotton required to weigh 1 pound.