# SUMMARY OF NARROW-ROW, HIGH POPULATION GENOTYPE TESTS IN ARIZONA FROM 1970 THROUGH 1973 AT VARIOUS LOCATIONS

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Evaluation of cotton genotype adaptable to narrow-row, high population culture has been carried on since 1970 at Yuma (100' elevation), CRC, Phoenix (1100'), and Marana (2200').

Yield results of the tests are grouped by location and are shown as a percentage of the yield of DPL-16. Genotypes were added or dropped from the tests for various reasons such as poor yields, undesirable agronomic traits, lack of fiber quality, and in some instances the unavailability of seed that particular year. Yield data were not taken some years because of poor stand. In such cases, boll samples were taken and fiber quality determinations made.

Plant populations varied from tests to tests, but in all instances the populations were considerably higher than that normally found in conventional single row cultural practices. All tests were conducted two rows on a bed with population ranging from a low of 87,000 plants/acre to a high of 150,000 plants/acre.

Genotype Tests - Yuma (Elevation 100')

Yield of lint/acre, as a percentage of DPL-16

| Genotype | 1971 | 1972 |
|---|---|---|
| DPL-16 | 907 (100%) | 907 (100%) |
| Stoneville 213 | 103.1 | 88.8 |
| Arizona Superokra | --- | 94.1 |
| Texas 6M-10 | --- | 125.3 |
| Texas 6-19-66-9-1 | --- | 87.0 |
| Superokra, Hopicala | --- | 86.6 |
| Arizona 6608 | --- | 70.9 |
| Arizona 6704 | --- | 56.0 |
| Dunn 56C | 81.5 | --- |

Genotype Test - CRC, Phoenix (Elevation 1100')

Yield of lint/acre, as a percentage of DPL-16

| Genotype | 1970 | 1971 | 1972(a) | 1972(b) |
|---|---|---|---|---|
| DPL-16 | 808<br>(100%) | 1504<br>(100%) | 1217<br>(100%) | 1230<br>(100%) |
| Stoneville 213 | 107.6 | 98.8 | 105.0 | 103.7 |
| Tamcot 37 | --- | --- | 119.0 | --- |
| Arizona Superokra | 88.5 | --- | 98.1 | 107.9 |
| Texas 6M-10 | --- | --- | 125.3 | 130.2 |
| Texas 6-19-66-9-1 | --- | --- | 104.8 | 112.8 |
| Superokra, Hopicala | --- | --- | --- | 78.9 |
| Tamcot 21 | --- | --- | 114.2 | --- |
| Tamcot 23 | --- | --- | 100.8 | --- |
| Arizona 6608 | --- | --- | --- | 74.6 |
| Arizona 6704 | --- | --- | --- | 86.1 |
| Arizona 64 | --- | 86.5 | --- | --- |
| Stoneville 7A | 105.1 | --- | --- | --- |
| Stoneville 7A Okra | 101.9 | --- | --- | --- |
| Coker 201 | 101.9 | --- | --- | --- |
| Lockett 4789A | --- | 75.3 | --- | --- |
| Dunn 119 | --- | 67.4 | --- | --- |
| Anderson Clayton 1764 | --- | 80.6 | --- | --- |

Genotype Test - Marana (Elevation 2200')

Yield of lint/acre, as a percentage of DPL-16

| Genotype | 1970, | 1971 | 1972(a) | 1972(b) | 1973(a) | 1973(b) |
|---|---|---|---|---|---|---|
| DPL-16 | 1259 (100%) | 1050 (100%) | 889 (100%) | 713 (100%) | 755 (100%) | 697 (100%) |
| Stoneville 213 | --- | 103.1 | 106.1 | 117.5 | --- | --- |
| Tamcot 37 | --- | --- | 123.0 | 114.0 | 138.5 | --- |
| Arizona Superokra | 86.5 | 114.1 | 105.7 | 98.5 | 107.8 | 97.0 |
| Texas 6M-10 | --- | --- | --- | 91.4 | 111.5 | --- |
| Texas 6-19-66-9-1 | --- | --- | --- | 74.1 | --- | --- |
| Superokra, Hopicala | --- | --- | --- | 85.1 | 101.9 | 100.9 |
| Tamcot 21 | --- | --- | --- | 92.0 | --- | --- |
| Stoneville 7A | 96.0 | --- | --- | --- | --- | --- |
| Lockett 4789A | 71.3 | --- | --- | --- | --- | --- |
| Arizona Expt. #37 | --- | --- | --- | --- | 74.6 | 85.9 |
| Arizona Expt. #39 | --- | --- | --- | --- | 66.5 | 73.3 |
| Coker 310 | --- | --- | --- | --- | --- | 100.3 |
| Coker 312 | --- | --- | --- | --- | 100.8 | --- |
| DPL-6621 | --- | --- | --- | --- | --- | 112.8 |
| McNair 71317 | --- | --- | --- | --- | --- | 129.0 |

## BREEDING COTTON ADAPTED FOR NARROW-ROW, HIGH POPULATION CULTURE

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Experimental strains of short and long staple cottons with superokra leaf designed for narrow-row, high population production systems were tested in replicated tests at Yuma, Phoenix, and Marana (2), in 1973. Results seem to indicate variable response to narrow-row, high population culture.

The Yuma test, which was programed for a double cropping culture was planted on February 15, 1973, was not harvested for yields because of poor spring weather conditions and the resulting poor stand. The crop was subjected to a simulated double cropping treatment in early August. Plants were cut at ground level, 6, 12, and 18 inches with the check left uncut. Observations made in early October showed some flowering and a few green bolls. The treatment of 12 and 18 inches seem to be the best. The whole crop appeared to be about a month late. The experiments will be tried again in 1974.