

from (Pima x M-8 Super Okra) and G. barbadense. The diploid parent is G. sturtianum, a lintless wild species from Australia.

Selection in the hexaploid cotton population continued in 1971 with emphasis on fertility. Cytological studies of the original colchicine treated F₁ plants, the F₂, and F₃ generations by Fanuel DaSilva of Fortaleza, Brazil, have shown that chromosome pairing, as measured by the number of bivalents per cell, significantly increased from 35.80 per cell in the F₁, to 36.89 per cell in the F₂, to 37.95 per cell in the F₃. Perfect pairing is 39 bivalents per cell.

A sample of hexaploid cotton lint was sent to the USDA Cotton Spinning Laboratory at College Station, Texas for a Standard Spinning Test. Test on 22's and 36's were requested in 1971 as the highest count the Laboratory was able to spin last year with the hexaploid lint was 36's. Short length and other unknown fiber properties of the hexaploid cotton caused it to stick to the roll on card and thus required special attention to get enough card sliver for processing.

COTTON REPORT - GREENLEE

Ernest Foster, Agricultural Agent, 1971

The Greenlee County Agent distributed two tons of Arizona 6401 cotton seed to 27 growers in Greenlee County for trial and comparison with conventional varieties. Parcelled out by county agent on request basis pro rata allotments.

Generally, only 1517D is grown in Greenlee County, but this year (1971) some growers included some Stroman 254 and Deltapine 16 varieties for further comparison.

Results:

6401 received mixed blessings in this county. Some growers thought it was ideal for this area, while others felt that it lost them money. Most agreed, however, that it showed more seedling vigor than 1517 or other varieties on trial. It was more frost resistant during emergence, resulting in better stands, and the lint quality showed up as almost identical to 1517D.

On higher, well-drained, clay soils it produced a shorter, bushier plant. This was praised by some growers who have fields relatively free of rocks and debris and who like to run their pickers close to the ground. Others condemned this growth characteristic, stating that they would rather have taller, spindlier plants with bolls higher up on the stalk.

On heavier, river-bottom ground one could hardly observe any difference at maturity between 1517D and 6401. Practically no difference in yield or quality was obvious in these river-bottom fields.

Although the 6401 retained a darker, healthier green throughout the growing season, it became obvious that it was more susceptible to Verticillium wilt than 1517D along towards maturity. Speaking of maturity, the 6401 seemed to retard boll opening until it reached a certain stage and then bolls would suddenly open all over the plant. This was regarded as rather peculiar since

the 1517 boll opening is strung out over several weeks duration. This may be a good point in favor of 6401 for this locality as it might enhance earlier harvesting.

Bolls appeared to be a little smaller on 6401 than those of 1517D, though they were well distributed on the plant. Another characteristic in favor of 6401 is its "storm proofness." Instead of stringing out and dropping to the ground after a rain and some windy weather, the locks would cling to the burrs, thus being more available for the spindles to pick them up.

Most of the 27 growers who I talked to regarding their 6401 stated that they wanted to plant it again next year, though there were some who felt that 1517D outyielded the new variety.

Since this is a rather marginal cotton area, I believe that it would be difficult to establish much of a yield comparison with 1517D on a single season's experience. Comments by growers included "superb," "a poor man's cotton," "just what we have been looking for," "without it I would have had nothing," and "a loss of thousands of dollars to the community."

To summarize, I would say that the 6401 good points outweigh its bad points, and I, for one, would like to see it released.

COTTON YIELD BY VARIETY - LATE PLANTING DATE AND SKIP-ROW PATTERN 1/

APEX FARMS - ART PACHECO - MARANA, 1971

Jim Armstrong, Pima County Agricultural Agent

<u>Variety</u>	<u>Lint Yield</u> <u>2/</u> lbs./Acre
Stoneville 7A	775
DPL-16	728
DPL-6137	590
Arizona 6401 <u>3/</u>	486

1/ Late planting was made on May 8 in a plant 2 skip 1 pattern.

2/ One replication of 20 rows each variety, all 20 rows harvested for yield data.

3/ Severe Verticillium wilt problem as compared to other varieties in test.

Planting Date - May 8
Fertilizer - 80 lbs.N/A
Water - 4.2 A.F.
Seeding Rate - 16 lbs./A

Harvest Date - Nov. 10-14, 6401 - Nov. 24
Soil Type - Clay Loam
Previous Crop - Papago Peas

There were several reasons for instituting this comparison.

- Determine if stand establishment could be attained at a later date with less difficulty than had been experienced in attempting early April establishment.