SJV COTTON BOARD
ACALA, PIMA AND UPLAND TESTING PROGRAM - 1998

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The unprecedented weather conditions of 1998 dominated the season. With abnormally cold temperatures both in the spring and in the fall, the most abbreviated growing season ever experienced took a heavy toll on production. Even with a full month delay in harvest, many bolls failed to open - a result of too few heat units to mature the late set. In these tests average yields of all carry-over entries were more than a bale an acre below that of the same variety the year before. In general, quality was not detrimentally affected, but because of the exceptionally adverse conditions varietal relationships, especially as it relates to yield, are not necessarily what might be expected in a more normal year.

Acalas

Some changes were made in the Acala testing program for 1998 to hasten the process for variety approval, particularly for some of the new transgenics. With pending legislation at the time to allow for a shortened approval process, the small trials where we initially screen large numbers of cottons were omitted; instead new entries moved directly into the large scale field length plots at eight locations. To accommodate a larger than normal number of first time entries into these trials - a total of eighteen varieties - these were planted in separate tests, while the carry-over entries were planted in adjacent plots.

All four Acalas that completed the testing cycle; BR-9605, OA-207, C-165 and C-166 were approved. The first three essentially equaled or else exceeded the yield of the Maxxa standard. Though C-166 did not reach the Maxxa yield level, its gossypol-free seed characteristic - the first such variety ever to be approved in the program - has the potential to increase the total market value of the seed and lint. On balance, the first three equaled or slightly exceeded the standard in fiber and yarn quality while the C-166 significantly exceeded the standard in most of these measurements. Although Verticillium wilt was not a dominating factor at any location, the BR-9605 and, to a lesser extent, C-166 expressed more symptoms than Maxxa.

Uplands

Though not a part of the regular trials, from the inception of the testing program we have monitored the performance of leading out-of-state varieties (designated National Standards) in small scale plots at selected locations. Until the most recent of the 3-year testing cycles that these varieties undergo, none of them - with one minor exception – have exceeded either the yield or the quality of the standard Acala variety. However, in the most recently completed cycle, two of them, though of lesser quality, did significantly out yield the Acalas. With the interest generated from recent reports on several of the newer non-Acala types, a greatly expanded program was put

in place for the 1998 season to more fully explore the yield and quality potential of some of these cottons in the San Joaquin Valley. A total of nine varieties were entered into these trials, six "Upland" entries submitted from as many breeding programs, both in state and out-of-state, and three approved Acalas for comparison. These were tested in replicated field length plots either adjoining the regular Acala tests or in a nearby field. As with the Acala tests, the full array of measurements was made with respect to yield, agronomic traits, and fiber quality and spinning performance. Results from these tests have been detailed in reports to the board and have been summarized in the California Cotton Review and other venues. The generally more rapid fruiting and maturation of the "non-Acala" types proved advantageous for yield, particularly in a year such as this. The largest yield disparity between the "Upland" and Acalas occurred at sites where overall yields were most severely depressed. Among the "Uplands" there was a considerable range in quality traits. Though the better of these approached Acala quality in some respects, none of them equaled the Acalas in overall spinning performance, particularly in the finer counts.

Pimas

To better represent the increasing acreage being planted to Pima the number of test sites was increased from three in past years to four in 1998 and five in 1999. As with the Acalas, the tests are planted in replicated plots running the length of the field, usually 1/4 mile. Production and quality measurements are similar to that for the Acalas except that the samples are processed into the finer 50's and 80's count combed yarns.

Two entries, OA-337 and UA-4, competed the 3-year testing cycle and were approved. The growth characteristics of OA-337 are similar to S-7, but the UA-4 has a slightly taller growth habit than the standard and it exhibits significantly less leaf bronzing and senescence in areas where this occurs. Overall yields of both were within 5 percent of the standard. With regard to quality the UA-4 shows slightly better strength and significantly improved fineness and maturity. The OA-337, also called "White Pima", as the name implies has a whiter lint than the normal cream color.

New Legislation

As all are aware, the past year has seen some dramatic developments in the San Joaquin Valley cotton industry. In an attempt to salvage what little season was left, in May of last year an emergency exemption was obtained permitting shorter season non-Acala varieties to be planted. It was eventually decided to implement permanent legislation permitting any variety to be grown. The legislation finally put in place provides for both the Acala and Pima testing programs to continue as they have in the past, with only the mandatory aspects related to commercial plantings no longer in force. The approved varieties will be known as "SJV Acalas" and "SJV Pimas"; other varieties grown in the valley will be designated "California Uplands" and "California Pimas". Regulations were adopted to properly identify bales of approved varieties as distinguished from all other Upland and ELS varieties. As long as this is successful it may well be that approved Acala and Pima growers will benefit from an enhanced premium, while giving all producers greater flexibility in their planting decisions.