

Planting Seed

Seedling Emergence Studies on Upland Cotton in Arizona in 1985

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Summary

Seed of 19 upland cotton varieties was planted early in the season at 3 locations to evaluate relative emergence. Variety comparisons for seedling emergence were consistent at the 3 locations. Comparison of performance of older varieties with past years showed consistent relative emergence in 7 comparisons and an apparent weak seed lot for one variety in 1985 and apparent weak seed lots for another variety in past years. Deltapine 41 has consistently been near the bottom in early season seedling emergence over years and Deltapine 61 has been below average.

Seed of 19 upland cotton varieties and experimental strains were planted early in the season at Maricopa, Marana, and Safford, Arizona. Two pima cotton varieties were also included at Safford. One hundred seeds per row of each variety were planted with 8 replications in each test. A single stand count was made after emergence was complete.

Stand counts (percentage) for the 3 locations and their mean are given in Table 1. Comparative stands of varieties were fairly consistent across tests. The test by variety interaction was not significant in the combined analysis. Six varieties with the highest average stand did not differ significantly from the highest stand in the 3 individual tests.

The average emergence or stand for 9 varieties that were planted in 1983 and 1984 and were common to the 1985 tests are also given in Table 1. Stand for 7 of the nine varieties were approximately proportional between 1983-84 and 1985. This indicates that these stand data often are the result of genetic differences in seedling vigor. A large proportional increase in emergence for DP 70 and a proportional decrease in emergence for McNair 235 in 1985 suggest that weak seed lots were the cause of low emergence for each. DP 41 and DP 61 have been consistently low in emergence for the last five years. These results are only applicable during unfavorable conditions of early planting.

Table 1. Stand Counts of 19 Lots of Upland Cotton Seed After Complete Emergence with Early Planting at 3 Locations in Arizona in 1985

Variety	1985 Test Location and Planting Date				
	Maricopa 3/28/85	Marana 4/2/85	Safford 4/11/85	3 Test Mean	1983-84 Mean
Stoneville 825	46 a	61 a	51 abc	53 a	
Coker 304	40 abc	60 a	58 a	52 ab	
Stoneville 506	46 a	60 a	44 abc	50 abc	33
DP 90	44 ab	55 ab	44 abc	48 a-d	33
U of A 107	37 a-d	55 ab	50 abc	47 a-d	
DP 55	43 abc	52 abc	45 abc	46 a-e	30
Coker 315	37 a-d	39 def	56 ab	44 b-f	
DP 90Y	42 abc	53 abc	35 cd	43 c-f	
DP 50	32 bcd	52 abc	43 a-d	43 c-f	
DP 70	32 bcd	51 a-d	45 abc	43 c-f	17
McNair 220	40 abc	44 bcd	44 abc	42 c-f	32
DP 120	31 cd	43 b-d	46 abc	40 d-g	
Stoneville 112	36 a-d	42 cde	42 a-d	40 d-g	
DP 61	36 a-d	46 bcd	37 bcd	39 d-g	27
McNair 235	37 a-d	43 bcd	38 a-d	39 d-g	39
Stoneville 213	35 a-d	44 bcd	34 cd	38 e-h	25
DP 41	36 a-d	40 c-f	35 cd	37 fgh	22
DP 775	26 de	31 ef	42 a-d	33 gh	
DP 30	20 e	29 f	23 d	31 h	
Pima P-62			57 a		
Pima S-6			51 abc		
Mean	37	47	44	42	22
CV	28%	23%	39%	31%	