

**RELEASE OF OKRA-LEAF, NECTARILESS, AND  
OKRA-LEAF -NECTARILESS PIMA GERMPLASM  
LINES IN FULL SEASON AND EARLY  
MATURING BACKGROUNDS**

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researchers in small seed quantities, and may be obtained by contacting the author.

**Abstract**

The okra-leaf trait ( $L^\circ$ ) confers earlier crop maturity in cotton and partial resistance to the silverleaf whitefly. The nectariless trait ( $ne$ ) has been demonstrated to confer a partial resistance to the pink bollworm. These traits, separately and in combination, have been released in two Pima (*Gossypium barbadense* L.) backgrounds for use by public and private breeders in cotton improvement efforts. The two traits were transferred into the cultivar Pima S-6 and into an early maturing line, P62, through backcrossing accompanied by selection. Lines PS-6 $L^\circ$ , PS-6 $ne$ , and P62 $ne$  were developed through four backcross cycles; PS-6 $neL^\circ$  was developed through three backcross cycles; and P62 $L^\circ$  and P62 $neL^\circ$  were developed through two backcross cycles. Yield, earliness of maturity, and fiber traits of the six germplasm lines were measured in replicated tests at Maricopa and Safford, AZ in 1998. Although there was a general trend toward lower yield among the okra-leaf lines, a location by genotype interaction was observed. At the low desert Maricopa location where significant heat stress occurred, PS-6 $neL^\circ$  produced 216 kg ha<sup>-1</sup> more lint than PS-6. However, at Safford, PS-6 $neL^\circ$  produced 23% less yield than PS-6. P62 $L^\circ$  and P62 $neL^\circ$  each produced 21% less lint yield than P62 at Maricopa, but 31% and 45% less yield than P62 at Safford. The nectariless lines PS-6 $ne$  and P62 $ne$  produced less yield than their recurrent parents at Maricopa, AZ (15% and 10%, respectively), but equivalent yields at the Safford location. All okra-leaf and okra-leaf - nectariless lines were earlier maturing than their normal leaf parents. The line P62 $neL^\circ$  matured 58 percent of its total yield 162 days after planting - an increase of 20 percent over P62 and 32 percent over PS-6. The lines PS-6 $neL^\circ$  and PS-6 $L^\circ$  matured 44% and 43% of their total yields 162 days after planting - an increase of 18% and 17%, respectively, over PS-6. All lines produced fiber within the extra-long staple fiber classification limits. However, the fiber lengths of PS-6 $neL^\circ$  (33.5 mm) and P62 $neL^\circ$  (35.6 mm) were shorter than the fiber of the recurrent parents, PS-6 (35.6 mm) and P62 (36.8 mm). The fiber strengths of PS-6 $neL^\circ$  (31.5 g tex<sup>-1</sup>) and P62 $neL^\circ$  (33.8 g tex<sup>-1</sup>) also were weaker than the fiber strengths of the recurrent parents PS-6 (34.4 g tex<sup>-1</sup>) and P62 (36.4 g tex<sup>-1</sup>). The six germplasm lines are available to breeders and other