A measure of the earliness of the crop was determined by a sequential harvest of plots of Deltapine 61. The total percent of the crop open by dates is as follows:

August 30	13.6%
September 10	36.0%
September 23	67.4%
October 7	81.4%
October 21	93.4%
November 7	100.0%

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Host-Plant Resistance

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Summary

Cotton breeding stocks were evaluated for resistance to pink bollworm. Resistance is being transferred into improved agronomic stocks.

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In the regional short-season test, WC-12NL, a nectariless, okra-leaf cotton developed in our breeding program, had the least amount of seed damage caused by pink bollworm of the 18 cottons in the test. Two of the 18 cottons in the test yielded more lint than the long-season check, 'Stoneville 213', and 11 yielded more lint than the short-season check, 'Tamcot Camd-E'.

Five of six converted Texas race stocks had significantly less seed damage than a susceptible selection, Texas 39C-1-H, when infested artificially with pink bollworm eggs, but none had less damage than Texas 39C-1-L, a resistant selection.

An antibiosis type of resistance to pink bollworm was transferred into nectariless and nectariless, okra-leaf cottons. Seven of the 35 cottons evaluated in 1985 had less seed damage than Deltapine 61 and three of the seven yielded as much lint. Plants of the seven selections were moved into the greenhouse and were crossed to the recurrent parents.

Combined data from two seasons showed that nectariless(N) and nectariless, okra-leaf(NL) near-isolines had significantly less seed damage than their nectaried, normal-leaf counterparts. DES 56NL had significantly less seed damage than DES 56N or the parent cultivar, 'DES 56', but did not yield significantly more lint.

Bolls of Stoneville 7A and Stoneville 7A okra-leaf were infested with 1-day old pink bollworm eggs. Boll temperatures were monitored every 30 min from 0900 to 1530 h for the 5 days required for the eggs to hatch (in cooperation with K. E. Fry). This procedure was repeated for 5 weeks.

There were no significant differences in mean boll temperatures for the two cottons, nor for egg hatch or number of insects/boll. However, there were fewer pink bollworm entrance holes/boll on okra-leaf bolls than on normal-leaf bolls. This result showed that the resistance of the okra-leaf cotton was caused by lower larval penetration rather than by reduced egg hatch.

General combining ability(GCA) for low seed damage was better for 7203-14-7 than for its sib selection 7203-14-103. GCA for low seed damage for 7203-14-104 was better than for the susceptible Deltapine 61, but not better than for the other three 7203-14-sib selections. The seven variants in AET-5 background (AET-5 is our pink bollworm resistant standard) carrying all combinations of nectariless, smooth-leaf, and okra-leaf and their normal counterparts, were released as germplasm lines.