

**SCREENING FOR TOBACCO BUDWORM  
RESISTANCE IN EXOTIC COTTON LINES**

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**Abstract**

In 1998, we grew 100 populations of day neutral bulks from crosses of 100 primitive accessions with a Delta cultivar. Each population was the result of selection for flowering plants in the F2 generation and bulking to F4 to F6. We had previously scored forty of these as possibly carrying genes for field tolerance to tobacco budworm. Each population was grown in single row plots with 4 replications. Natural tobacco budworm populations were heavy all season. Thus we had a very severe infestation with most plants setting only a few bolls; however, we noticed that a few plants had a somewhat normal boll set. We harvested these 47 plants and they were from 13 populations. Nine of the 13 populations had previously shown some field tolerance to tobacco budworm. This year provided us with an opportunity to make individual plant selections in these populations. Seed of these 47 individual plants were grown in 1999 in single row plots with and without tobacco budworm. Tobacco budworm was also grown in the laboratory on these lines. In 1999 we observed measurable field tolerance to tobacco budworm in progeny of 31 of the 47 plants. Additional survival of neonate larvae and weights of survivors were reduced on plants in several populations. We now have seed to evaluate these lines in replicated field plots.