

**DIFFERENT SOURCES OF ROOT-KNOT
NEMATODE RESISTANCE**

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Abstract

The Southern Root-Knot Nematode (*Meloidogyne incognita*) is a major pest on Upland cotton (*Gossypium hirsutum*). Acala C-225 and LA 887 are two varieties with moderate resistance. The breeding line Aub 623 has a high level of resistance. The parents of Aub 623 are Cleve wilt 6-8 and a Mexican Wild accession from Jack Jones. Resistance seems to be controlled by one dominant and one additive gene. We have identified 22 race lines with varying levels of resistance. These race lines have been crossed with Cleve wilt (moderate resistance), M315 (high resistance), and M8 (high susceptibility) to evaluate the genes involved. A F₂ population from each cross will be evaluated. LA887, T247, M027, T122, and Cleve wilt have similar levels of resistance and segregated similarly when crossed to M315. Cleve wilt had an average of 42.4 egg masses per plant and LA887, T247, M027, and T122 F₂'s with Cleve wilt averaged 40.3, 72.3, 44.1, and 38.5, respectively. On the other hand, T44 and M026 have a higher level of resistance and the F₂ with M315 resulted in an average of only 5.1 and 3.7 egg masses per plant (high level of resistance), respectively, compared to 1.3 egg masses per plant for M315. Thus, these lines seem to have different resistance genes than Cleve wilt.