

**SUBLETHAL IMPACTS OF DIAMOND (NOVALURON) ON TARNISHED PLANT BUG**

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**Abstract**

Chemical control of tarnished plant bug has become challenging in the Mississippi Delta due to high, sustained pest densities and insecticide resistance. Diamond (novaluron) insecticide, a chitin synthesis inhibitor, has proven efficacy against nymphs, but does not cause adult mortality. A series of experiments were conducted on tarnished plant bug adults that showed that novaluron incorporated into artificial diet or sprayed on cotton plants sometimes caused reduced oviposition and consistently reduced egg hatch rate, resulting in fewer nymphs per female. This sublethal activity on adults likely contributes to suppressed nymph densities observed in treated fields up to several weeks after application and explains why the most consistent yield results with novaluron are observed when applications are made on large adult populations before nymphs have hatched.