

# **1578 Texas Boll Weevil (*Anthonomus grandis grandis* Boheman) Susceptibility Status to Malathion in Support of the Texas Boll Weevil Eradication Program**

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A boll weevil eradication program has been ongoing in Texas since 1994. The only insecticide used by this program is Ultra Low Volume (ULV) malathion. Predicted intensive spraying motivated a precautionary resistance monitoring effort by the Texas A&M University Insect Toxicology Laboratory. The objective was to monitor populations in regions under active eradication during the cotton growing season and after cotton harvest when weevils migrate out of cotton fields. Adult vial bioassays were conducted in the laboratory to monitor susceptibility of 2-3 day-old weevils during the 2000, 2003, 2005, and 2006 cotton growing seasons. Results were compared with data from a susceptible 2000 Mission, TX, laboratory colony. Results of field populations from different Texas counties showed variation in susceptibility to malathion as indicated by statistical analyses of  $LC_{50}$  and  $LC_{90}$  resistance ratios. These ranged from 0.34-4.02 and 0.29-3.26, respectively. Timely analysis and communication of these results aided the Texas Boll Weevil Eradication Foundation's Technical Advisory Committee in providing scientifically based recommendations to program management that helped assure program operations were conducted in an effective manner.