

**MONITORING TARNISHED PLANT BUG
RESISTANCE TO THREE CLASSES
OF INSECTICIDES IN NORTHEAST LOUISIANA**
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With increasing reports of resistance in the mid-south states and its prevalence as a pest, the tarnished plant bug, *Lygus lineolaris* (Palisot de Beauvois), has emerged as a serious economic pest in cotton. Because of the continuing need to monitor insecticide susceptibility of this pest in Louisiana, a glass vial bioassay was used to evaluate the toxicity of three classes of insecticides. These classes of insecticides include an organophosphate (acephate), a carbamate (oxamyl), and a pyrethroid (cypermethrin). Tarnished plant bugs were collected in Northeast Louisiana from native wild hosts and cotton in 1995, 1996, and 1997. Adults (2-3/vial) were exposed to a residue of acetone alone (control) or acetone containing serial dilutions of the insecticides in 20 ml glass vials. Vials containing the tarnished plant bugs were maintained in the laboratory at room temperature (ca. 27° C) and mortality assessed after 24 h.

LC₅₀ values for each of the insecticides generally increased from April to August during 1995, 1996, and 1997, suggesting that insecticide susceptibility decreased in the field during the growing season. The greatest change in susceptibility occurred to cypermethrin during each year. LC₅₀ values during April were less than 2 µg/ml but increased 3 - 8x during the late season. Seasonal decreases in tarnished plant bug susceptibility to acephate and oxamyl was less than 3x from April to August. Susceptibility to all three insecticides appeared to stabilize in August and September in 1995, 1996, and 1997, which is probably related to insecticide use patterns at the end of the growing season. These data suggest that acephate and oxamyl would be more likely to provide satisfactory control than cypermethrin during late season.