

Summary Report Prepared for the Wheat and Feed Grains Commodity Grants Program
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Project Title: Evaluation of Pesticide Resistance in Beetle Pests of Stored Wheat in Alabama

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Summary

The objective of this project is to evaluate the susceptibility of key stored grain beetles collected in stored wheat from different parts of Alabama to labeled rates of Reldan®. In summer/fall 2005, we visited five farms located in different parts of Alabama to evaluate stored grain insect problems and to collect insect samples for use in our experiments. Farmers at the collection sites were interviewed with the aim of understanding their historical pest problems and pest management practices. The insects were collected using probe traps deposited overnight in wheat bins, and were later identified in the laboratory. The two key insects collected on stored wheat in most of the sites are rice weevil (*Sitophilus oryzae*) and red flour beetle (*Tribolium castaneum*). Other insects collected on wheat at the sites include *Rhyzopertha dominica*, *Plodia interpunctella*, and *Tenebrio molitor*. The insects at the various sites are now being reared separately (by site) on wheat in the laboratory to establish a good supply of individuals of each strain for use in the insecticide resistance bioassays. Recently, we have started to collect some preliminary data on known susceptible strains of each species, which will be compared against our field-collected strains to determine level of insecticide resistance. Detailed insecticide resistance bioassays are ongoing.