EVALUATING PYRETHROID RESISTANCE IN OEBALUS PUGNAX (F.) IN THE TEXAS COASTAL

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<u>Abstract</u>

The rice stink bug, Oebalus pugnax (F.), is an economically important pest of rice and grain sorghum in the southern United States. The most common management method used by grain sorghum growers is insecticide applications during the sorghum flowering and grain maturation stages. Control failures after pyrethroid-based insecticide applications have been recorded in some rice stink bug populations in Texas, with resistance documented in at least one instance. However, the range and extent of resistance has not been thoroughly studied. During the summer of 2021, we evaluated rice stink bug populations along the Texas Coastal Bend and parts of Louisiana to determine the geographic range and extent of pyrethroid resistance. We utilized a glass-vial bioassay with increasing concentrations of lambda-cyhalothrin residues to determine the lethal concentrations required to kill 50% (LC50) and 95% (LC95) of each population. As a follow up to this study, we conducted field efficacy experiments in Nueces County, Texas, to compare the efficacy of lambda-cyhalothrin and two insecticides from other insecticide classes against an untreated control. The results from these studies will aid in management decisions for control of rice stink bug across hundreds of thousands of acres of grain sorghum.