Rice Stink Bug Resistance to Pyrethroids

2009

Research assessing Texas rice stink bug (RSB) populations for “resistance” to pyrethroids was conducted to determine why Texas rice farmers spray more frequently for RSB compared to rice farmers in other southern states. In addition, EPA asked for data demonstrating Texas RSBs are more difficult to kill than populations in other southern rice-producing states. Results of these studies were submitted to EPA for approval of a Section 18 for Tenchu 20SG for use in 2010.

In cooperation with Drs. Kelly Tindall (University of Missouri), Mike Stout (LSU), Natalie Hummel (LSU) and John Bernhardt (University of Arkansas), the Entomology Project tested the hypothesis that RSB populations in Texas are more difficult to control with pyrethroids (Karate Z) than other southern rice-producing states. Basically, RSB adults were collected from 4 areas (Beaumont, Ganado, Round Mott and East Bernard) in Texas and exposed to varying concentrations of Karate Z in a standard vial test. Results show Texas RSBs are significantly harder to kill than Louisiana, Missouri or Arkansas RSBs (Fig. 1). In general, Texas populations were about 3x harder to control than RSBs collected from other states. Furthermore, Round Mott populations were about 7x harder to control than populations from other states. These data were submitted to TDA and EPA to convince them to support a Section 18 for Tenchu 20SG in 2010.

![Figure 1. LC50 of RSB Exposed to λ-cyhalothrin in the Adult Vial Test.](image)

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