

## **Mexican Fruit Fly (*Anastrepha ludens*) Validation Test for New Procurement 2-Component Cones**

**Kari Skalitsky<sup>1</sup>, Dr. Hugh Conway<sup>2</sup>, Dr. Christopher Vitek<sup>1</sup>**

<sup>1</sup>*Department of Biology, University of Texas-Pan American, Edinburg, TX*

<sup>2</sup>*United States Department of Agriculture, Animal and Plant Health Inspection Services, Plant Protection and Quarantine, Mission Laboratory, Edinburg, TX*

The Mexican fruit fly (*Anastrepha ludens*) is an invasive, non-native insect pest that infests citrus groves in Central and South America and a reoccurring pest in the lower Rio Grande Valley region of south Texas. To prevent Mexican Fruit Flies from causing serious damage to citrus, the USDA APHIS PPQ along with Texas Department of Agriculture established a suppression and control program for mass rearing, irradiating, and aerial releasing sterile Mexican fruit flies using Sterile Insect Technique (SIT). A critical component of this program is a trapping segment (5 per square mile) using the most effective lure/trap combination. Bioassays were used to compare Mexican fruit fly capture results between: 1) 2-component cones (Scentry Biologicals, Inc.), 2) torula yeast (Borax ERA International Limited) and 3) 10% propylene glycol capture solution (control). For each testing period, two-piece multi-lure traps with 300 mL of a 10% propylene glycol capture solution was used for all traps with an addition of 3 torula yeast tablets in each yeast trap. A Latin Square design was used for initial trap placement using ten traps of each treatment in the orchard. To avoid tree/placement bias, traps within a row were advanced one position at time of servicing. The result of the bioassays indicated that at 24 hours, one week, and at six weeks the 2-component cones captured slightly more Mexican fruit flies than torula yeast. During week two and eight, torula yeast captured slightly more flies than the 2-component cones. Both the 2-component cones and torula yeast captured significantly more flies than the capture solution (control) during each test period. The capture results of the 2-component cones met established criteria for program usage.