Chemical Control/New Products

Attract and Kill Technology to Control New World Fruit Flies

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Abstract: *Anastrepha* and *Rhagoletis* fruit flies are the most damaging tephritid pests indigenous to North and South America. IPM Tech, Inc., in cooperation with ARS developed effective lure technologies for these species that provide the basis for development of killing stations. Killing stations combine an attractant with an effective killing agent that is delivered at the surface of a visually attractive target upon which the flies alight and are killed.

A new multi-component lure for Mexican fruit fly (MFF) was developed cooperatively by IPMT and Dr. David Robacker, USDA-ARS, and described in a 2002 ESA poster and recent ARS magazine article. Also a newly formulated lure that we developed for apple maggot fly (AMF), cherry fruit fly (CFF) and walnut husk fly (WHF) has been shown to be superior to existing lures for CFF and WHF.

Arrays of targets (sticky traps) were tested in several locations. The traps all had equal trapping area. In a high density fly population (i.e., earlier in the summer), the cylinders and cross-vane traps were the most effective for capturing WHF while the flat Pherocon AM-NB, the standard trap used for monitoring populations of WHF, was the least effective. Overall, the cylindrical and cross-vane traps outperformed the inverted-v shape for all species.

A one-acre field test for suppression of MFF was conducted in Texas using 10, 25 and 50 killing stations per acre. One thousand sterile flies were released per week per acre during the test. Fly recaptures were suppressed by 51, 48 and 67%, respectively, compared to untreated plots.