Developing an Automated Trapping System for Precision IPM in Washington Apples

Nik G. Wiman\textsuperscript{1}, Vincent P. Jones\textsuperscript{1}, Jay F. Brunner\textsuperscript{1} and Fran Pierce\textsuperscript{2}

\textsuperscript{1}Washington State University Tree Fruit Research and Extension Center, Wenatchee, WA
\textsuperscript{2}Washington State University Center for Precision Agricultural Systems, Prosser, WA

Keywords: Automated traps, obliquebanded leafroller, \textit{Choristoneura rosaceana}

Abstract: Automated traps are a key component of web-based orchard monitoring systems that will ultimately provide users with pest flight data from remote trapping stations. These data will reduce the labor required to physically monitor traps and will increase pest management precision. We are currently testing a modified multi-pher trap equipped with a sensor and data logger. This trap uses pheromone lures to attract adult lepidoptera to a vertical funnel that collects them into a chamber with insecticide. The sensor is located in the apex of the funnel and is intended to provide an account of each insect that enters the kill chamber. The data logger stores this information with the date and time when each insect passed the sensor. The trap was tested in the field with OBLR and to a lesser extent with CM. The automated traps caught approximately 52\% fewer adult male OBLR than standard multi-pher traps. This was likely due to slight differences in design of the automated versus the standard multi-pher traps. The sensor and logger technologies provided an inconsistent account of the actual number of captured adults. New technology is currently being evaluated to improve the efficacy of the sensor and logger components and improved trap designs will be evaluated next field season.