

# Evaluation of Yellow Rectangle Traps Coated with Hot Melt Pressure Sensitive Adhesive and Sticky Gel Against *Rhagoletis indifferens* (Diptera:Tephritidae) and the Possible Influence of Yellow Colors on Captures

**Research Project:** [Management of Insect Pests of Temperate Tree Fruit Crops](#)

**Author:** Yee, Wee, Research Entomologist

**Submitted to:** Journal of Economic Entomology

**Publication Type:** Peer Reviewed Journal

**Publication Acceptance Date:** January 6, 2011

**Publication Date:** TBA

**Interpretive Summary:** Western cherry fruit fly is an important pest of cherries in the Pacific Northwest of the United States. Sticky yellow rectangle traps are used to monitor for the fly so that cherry growers know when and if they need to treat their orchards with insecticides. Traditional sticky traps are covered with a sticky gel and are messy and difficult to handle, so less messy traps are desirable for handlers. Personnel at the USDA-ARS Yakima Agricultural Research Laboratory in Wapato, WA, are determining if a yellow rectangle trap that is not covered with a sticky gel but with a less messy pressure sensitive adhesive can catch as many flies as a traditional yellow rectangle trap with sticky gel. We found that the trap with the pressure sensitive adhesive consistently caught more cherry fruit flies than the traditional trap and that this may have been due to its more attractive yellow color. This result is important because it provides field personnel with an alternative trap that is less messy and more efficacious for capturing cherry fruit flies than traditional traps.

**Technical Abstract:** Sticky yellow rectangle traps have been used for many years to capture *Rhagoletis* fruit flies (Diptera: Tephritidae). Traditional yellow sticky traps are coated with a sticky gel (SG) that can leave residues on the hands of users. An alternative to SG on traps are hot melt pressure sensitive adhesives (HMPSAs), which are less messy. The main objective here was to evaluate two rectangle traps of two yellow colors, the Alpha Scents Yellow Card coated with HMPSA (Alpha Scents), and the Pherocon® AM trap coated with SG (Pherocon), for capturing western cherry fruit fly, *Rhagoletis indifferens* Curran. Flies captured on both traps and held in the laboratory and field did not escape their surfaces. Flies caught on HMPSA were damaged when removed from traps without citrus solvent, whereas flies caught on SG could be removed intact without solvent. In field tests, Alpha Scents traps baited with an ammonium bicarbonate lure captured significantly (1.4-2.1 times) more *R. indifferens* than Pherocon traps baited with the same lure. Results of an experiment that eliminated differences in surface sticky material type, overall size, and surface sticky area between Alpha Scents and Pherocon traps suggested more flies were caught on the Alpha Scents than Pherocon traps because of their different yellow color and/or lower fluorescence and not the HMPSA. Overall, the Alpha Scents trap is a viable alternative to the Pherocon trap for detecting *R. indifferens*.