

Title Effects of kaolin-based particle film to control *Ceratitis capitata* (Diptera: Tephritidae) infestations and postharvest decay in citrus and stone fruit

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Abstract

Ceratitis capitata (Wiedemann) is a major pest of fruit crops due to its wide host range and distribution. The objectives of this study were to evaluate the effectiveness of Surround WP, a kaolin-based particle film, as an alternative to synthetic insecticides to control medfly infestations and postharvest decay in citrus and stone fruit. No-choice, choice and half-choice laboratory experiments with citrus fruit, nectarines and peaches showed a significant reduction of medfly punctures and landings on kaolin-treated fruit. The total loss at harvest in satsumas sprayed with Surround WP (17%) was significantly lower than in those untreated (57%) or treated with trichlorfon (68%). In 2004, the yield loss at harvest in peaches and nectarines treated with Surround WP was not different compared to fruit sprayed with fenthion and trichlorfon, while in 2005 Surround WP was significantly more effective than insecticides in reducing the incidence of damaged fruit. Citrus and stone fruit treated with Surround WP showed a lower incidence of postharvest decay than control and insecticide-treated fruit. The present study shows for the first time the lower incidence of postharvest decay in fruit protected with Surround WP, which represents a suitable alternative to conventional insecticides in integrated and traditionally managed orchards.