

Pome Fruits—Implementation

Codling Moth and Pears

R.A. Van Steenwyk and C.F. Fouche
University of California Department of Entomological Sciences, Berkeley, CA

Keywords: codling moth, postharvest, pear

Pears are harvested early in the season (mid-July through mid-August) relative to other CM host crops, such as apples or walnuts. After commercial pear harvest, it is not uncommon to find a large number of unharvested fruit remaining on the trees. Since insecticides used for the control of CM are usually terminated 2 or more weeks before harvest, the unharvested fruit serve as excellent sites for CM oviposition and allow for a rapid increase in the CM population. The CM which develop in these fruit after mid-August will enter the overwintering stage (diapause) and emerge as adults the following spring. A large overwintering population of CM can have a detrimental effect on the efficacy of either a pheromone or insecticide based control program. A study was conducted during the fall of 1992 to determine if postharvest fruit sanitation could reduce the number of diapausing larvae and subsequent adult CM emergence the following spring.

Commencing immediately after harvest, a 5- to 10-acre portion of each of 9 orchards located in Fairfield, Courtland and Kelseyville was stripped of nearly all remaining fruit and another portion of equal or larger size was not stripped. Approximately 93% of the fruit was removed by the postharvest fruit sanitation treatment. The average percent CM infestation in the fruit was 29.4%. An average of 1,179 CM-infested fruit per acre was generated in the unstripped portion of the orchards, while an average of 93 CM-infested fruit per acre was generated in the stripped portion of the orchards. Approximately 90% of the CM-infested fruit were reduced by the postharvest fruit sanitation treatment. The average number of diapausing larvae found in 25 corrugated cardboard bands was 0.4 larvae in the stripped portion of the orchards and 3.1 larvae per 25 bands in the unstripped portion of the orchards. CM larvae begin to enter diapause in early July and all larvae which complete their development by mid-August will enter diapause.