

Stone Fruits—Thresholds, Monitoring and Sampling

Response of Male Peach Twig Borer Moths to Different Pheromone Isomer Ratios

R.E. Rice<sup>1</sup> and J.G. Millar<sup>2</sup>

<sup>1</sup>University of California, Parlier, CA

<sup>2</sup>University of California, Riverside, CA

*Keywords:* peach twig borer, peach, nectarine, almond, apricot

Twenty years after the initial identification and synthesis of the peach twig borer (PTB) pheromone, the question still remained as to the correct ratio of the acetate and alcohol isomers for an optimum pheromone blend. Field trials with varying ratios of E5-10:AC acetate E5-10:OH in three western US locations in 1993 showed conclusively that California populations (Banning and Caruthers) of PTB responded optimally to an 80:AC, 20:OH ratio. However, PTB males in Yakima, WA, preferred the 100% acetate isomer over six other candidate blends. The 1993 field trials confirmed the findings of Roelofs et al. in 1973-74 that the PTB pheromone blends differed for California and Washington PTB populations but contradicted the earlier findings that Washington PTB males responded best to 100% E5-10:OH. These results suggest that optimized pheromone blends for PTB monitoring and mating disruption may need to be formulated specifically for different geographic regions. The 1993 test results also indicate a high probability that contamination of the 1973 isomer blends affected the earlier data.