

### III. Stone Fruits

#### a. Biology

Oriental fruit moth (OFM); Grapholita molesta (Busck)  
Codling moth (CM); Cydia pomonella (Linnaeus)

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SYNERGISM OF THE ORIENTAL FRUIT MOTH PHEROMONE BLEND WITH (E,E)-8,10-DODECADIEN-1-OL. In trapping experiments conducted in 1984/85 in an apple orchard in New York with a mixed population of OFM and CM it was noted that the OFM pheromone blend or certain components thereof inhibit the response of CM males to its own sex pheromone. The CM pheromone, (E,E)-8,10-dodecadien-1-ol, on the other hand, had the opposite effect on the pheromone response of OFM males and acted as a synergist thus increasing trap catches several fold. The natural OFM pheromone blend consists of (Z)-8-dodecenyl acetate, the major component, and three minor components including (E)-8-dodecenyl acetate, (Z)-8-dodecen-1-ol, and dodecanol. Commercial OFM pheromone preparations include the first three components but lack dodecanol. The objective of experiments in 1989 was to determine how dose of the CM pheromone added to the OFM blend affected the response of OFM males and to what extent the synergistic effect was influenced by the presence of (Z)-8-dodecen-1-ol, the alcohol component in the OFM blend. (E,E)-8,12-dodecadien-1-ol added to the 3-component OFM pheromone blend increased catches from 2.5 to 3.2 fold. The synergistic effect was dose-dependent. The optimum dose was between 125 and 500 micrograms per OFM dispenser. The synergistic effect occurred in the presence as well as absence of (Z)-8-dodecen-1-ol. Applications of this improved pheromone blend for monitoring and control will be explored in 1990.