

Response to host plant volatile in resistant codling moth

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The responses of *Cydia pomonella* (L.) to the ripe pear volatile ethyl (2E,4Z)-2,4-decadienoate were compared in susceptible and resistant populations originating from Southern France. A dose-response relationship was established for antennal activity of one susceptible and two resistant laboratory strains, one susceptible and one resistant field population. Antennal responses were significantly higher in males than in females, and higher in field populations than in laboratory strains. No difference was observed between susceptible and resistant strains or populations.

The dose response-relationship to the kairomonal attractant was also evaluated in wind tunnel experiment. No response of the females could be obtained in our experimental conditions. The males of the laboratory strain selected for resistance to deltamethrin exhibited a significantly higher response than the susceptible strain.

However, the captures of moths of a susceptible population in an untreated apple orchard were similar in pheromone and kairomone baited traps, whereas the pheromone traps were more attractive than the kairomone traps on the resistant populations of commercial orchards. The ratio of captures between pheromone and kairomone traps was highly affected by the fruit maturity and by the apple cultivar, and thus the influence of resistance status in field experiment could not be clearly defined.