

Conscent PE mating disruption system is an effective alternative to methyl bromide for the control of stored product moths

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DOI: 10.5073/jka.2010.425.329

Abstract

Stored-product moths, *Plodia interpunctella*, *Ephestia kuehniella*, *Ephestia cautella*, *Ephestia elutella* are a serious threat to stored-food commodities. These moths are mostly controlled using chemical insecticides. Recently, the residual effects of synthetic insecticide have become a serious concern to consumers. Therefore, an alternative measure is being sought. The object of the present study was to induce mating disruption and subsequently a reduction of the population of the aforementioned storage moths. Conscent PE, a steady release solid dispenser emits pheromone component Z-9, E-12-Tetradecadien-1-yl acetate. This dispenser was tested consecutively for five years in a real life situation in the United Kingdom. This mating-disruption system is specifically designed for use in enclosed spaces leading to an increase of pheromone concentration in the air. Solid dispensers containing 100 mg of sex pheromone Z-9, E-12-Tetradecadien-1-yl acetate were applied every 8 meters in a food factory. Complete absence of the pest was achieved after 12 month of continuous application. Pheromone traps showed zero captures and three monthly biological assessment indicated the absence of any breeding. There was also a dramatic decline in reported customer complaints and the twice yearly fumigations with methyl bromide were deemed unnecessary. The dispensers were found to be effective for up to 13 weeks.

Keywords: Consent PE, Mating disruption, Pheromone, *Plodia interpunctella*, *Ephestia kuehniella*, *Ephestia cautella*, *Ephestia elutella*.