

Applications of semiochemicals for managing stored-product insects: research and product development

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Abstract

Pheromones have been identified for over forty species of stored-product insect and commercial formulations are available for nearly 20 species. Food-based attractants have been identified that can act alone to attract pests or provide additive or synergistic increase to pheromone response. Recent research on semiochemical-based pest management methods on three pest groups will be presented. Experimental studies on the use of synthetic sex pheromone for mating disruption of storage moths and also for the “attract-and-kill” method will be reported. Initial studies indicate the mating disruption of the cigarette beetle, *Lasioderma serricorne* is possible using its synthetic sex pheromone. Lastly, studies on the response of the lesser grain borer, *Rhyzopertha dominica* (F.), to its aggregation pheromone suggest that this behavior can be manipulated with other semiochemicals. Semiochemical-based pest management can go beyond the effective use of traps in monitoring and control decision-making to actual population suppression with these behavioral compounds as alternatives to traditional insecticides.