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2557: The advantages of semiochemical-based attract and kill techniques in insect pest management

Wednesday, September 28, 2016

09:15 AM - 09:30 AM

📍 *Convention Center - Room W314 B*

Introduction: Semiochemicals (chemicals impacting insect behavior) have been employed in species-specific, ecologically friendly insect pest control strategies through a wide variety of mechanisms, many of which do not require the application of conventional insecticides. These include mating disruption—application of sex pheromones in such a way that male insects are unable to locate a female mate, reducing the size of the pest population in the treated area over time—mass trapping, and repellency. However, semiochemical attractants can also be used in combination with small amounts of chemical toxicants, a strategy called attract and kill (A&K).

Methods: While cover sprays and A&K strategies both function by the same basic method, inducing mortality in a large enough proportion of the pest population to reduce its impact on the treated resource (agricultural crop, human or animal population, etc.), the latter possesses considerable advantages over the former. Because A&K pairs the toxicant with a powerful, often species-specific, attractant, only a tiny fraction of the quantity of insecticide that would be used in a conventional cover spray application is required. This attractive capacity enables A&K formulations to be applied in more targeted, strategic ways, drawing pests away from vulnerable organisms to areas where they may be dealt with more effectively and with reduced risks to non-targets.

Results/Conclusion: A&K technologies, along with other methods of semiochemical-based pest control, can provide a more sustainable, environmentally sound method of insect pest control than traditional cover sprays—a highly desirable alternative, considering the uncertain future of many conventional pesticides.

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