

Mating Disruption/SIR

New Methods for Application of Pheromone Mating Disruptants

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Abstract: Until now pheromone-based insect mating disruptant choices have been limited mainly to hand-applied products or microencapsulated products. Hand-applied products offer season-long control with a single application but require time-consuming and increasingly expensive application labor. Microencapsulated products can be applied through conventional spray equipment but require multiple applications per season due to their short duration of effectiveness. Alternative product forms, such as Hercon's DISRUPT II Gypsy Moth Flakes or Scentry's NOMATE® Fibers, can provide season-long control with one or several applications, respectively, but have required the use of specialized and expensive application equipment, which has limited their broad acceptance. Recently developed application methods, particularly for Hercon's new DISRUPT MICRO-FLAKE® family of mating disruption products, show promise in overcoming this limitation by utilizing relatively inexpensive and mostly off-the-shelf equipment components. A modified commercial hydroseeder incorporating a timer-controlled spray nozzle has been used successfully to deliver set volumes of flake-sticker-water tank-mix to the tops of tall trees, such as walnuts or forest species. A modified commercial leaf blower, incorporating a patented venturi section to combine flakes and sticker solution, has successfully applied treatments in apple orchards in under 3 minutes per acre when mounted on a small ATV. With further development and commercial optimization, these methods appear adaptable for the application of mating disruptants to a wide variety of target insects and crops in the future.