

Pheronym®'s Nemastim™ Advances Biological Control of Whiteflies in Breakthrough Foliar Application

Pheromone-enhanced beneficial nematodes increase mortality of whitefly adults by 79% and nymphs by 94 %, with fewer nematodes

WOODLAND, CA, UNITED STATES, May 13, 2025 /EINPresswire.com/ -- Pheronym®, an ag-biotech company in sustainable pest management, has announced that pheromones increased beneficial nematodes' performance against whiteflies in a foliar application. Whiteflies cause over \$140 million (USD) in plant damage and crop loss annually across the southeastern United States. Globally, whiteflies cause billions of dollars in damage and are ranked as one of the worst invasive species. Whiteflies can cause total crop loss, highlighting the urgent need for alternative solutions beyond conventional synthetic pesticides.

Published in Biological Control, the peer-reviewed study, "Enhanced efficacy of [pheromone-treated entomopathogenic nematodes against whiteflies](#) in foliar applications with a gel adjuvant", marks a pivotal advancement in the use of beneficial nematodes/entomopathogenic nematodes (EPNs) for aboveground pest control.



Whitefly Photo credit: Stephen Ausmus, USDA



Achieving a whitefly (*Bemisia tabaci*) adult mortality rate of 79.97% within one week from a single application, this study highlights the promise of Nemastim™ treatment for EPNs as an innovative solution against the resilience of whiteflies. Furthermore, whitefly nymph mortality was 94% within a week in pheromone-treated EPN trials. Notably, this efficacy was achieved using fewer



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EPNs than previously reported in the literature, underscoring the efficiency and cost-effectiveness of the approach. Using pheromones with a gel adjuvant was critical, enabling EPNs to adhere to foliage and survive under UV light. “This new application is important because it confirms that pheromone-treated EPNs can be effective on foliage in addition to our previous field trials showing soil pest control and pheromones can reduce EPN application rate as well,” says Dr. Fatma Kaplan, CEO of Pheronym.

Dr. Jermaine Perier (Postdoctoral Researcher, University of

Georgia), the first author of the research, said, “It is great when we can improve existing tools for pest management and utilize them in new ways to offer more plant protection. In this study, nematode pheromone extracts enhanced EPN efficacy in managing whiteflies, a foliar pest.” Dr. Perier’s postdoctoral studies are being overseen by co-advisors Dr. Shapiro-Ilan (USDA-ARS) and Dr. Michael Toews (University of Georgia). Karl C. Schiller (COO of Pheronym, Woodland, CA) said, “Indeed, this study further demonstrates the ability of pheromone-treated EPNs to enhance biocontrol efficacy against various target pests in diverse environments.”

This research, led by Dr. David Shapiro-Ilan and Dr. Fatma Kaplan, shows promise for controlling other foliar insect pests, such as thrips. Thrips is a globally important insect pest that transmits viruses, damages crops, and is becoming increasingly resistant to conventional chemical pesticides. The industry has shown strong interest in the ongoing greenhouse trials.

The current study for foliar applications and five peer-reviewed publications for below-ground applications ([laboratory](#), greenhouse, and [field trials in orchards](#)) position Nemastim for both below-ground (soil) and above-ground (foliar) applications against multiple economically important insects. Pheronym-treated EPNs offer a cost-effective and sustainable solution for pest management.

About Pheronym

Award-winning Pheronym is an ag-biotech pest management company that enables sustainable farming through its novel platform of nematode pheromones. The company's patented solution uses a new pheromone to control plant-parasitic nematodes (microscopic roundworms) in an eco-friendly way and enhances beneficial nematodes' efficacy to management pest insects.

Learn more at <http://www.pheronym.com>

Karl Cameron Schiller

Pheronym, Inc.

+1 352-219-4464

[email us here](#)

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