

GreenLight Biosciences launches Norroa, the pioneering RNA-based treatment for Varroa mites in apiculture

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GreenLight Biosciences announced the U.S. Environmental Protection Agency's (EPA) registration of Norroa[®], the first-ever nature-based treatment specifically designed to combat varroa mites, the leading threat to honey bee colonies. This groundbreaking innovation provides beekeepers with a powerful new tool proven to protect these pollinators, which are critical to U.S. agriculture. ¹

Norroa's active ingredient, **vadescana**, leverages RNA interference (RNAi), a natural biological process that precisely targets varroa mites and ultimately stops their reproduction. It is part of the Insecticide Resistance Action Committee's (IRAC) Group 35, offering beekeepers a brand-new mode of action in the fight against these mites. The nucleic acids in the product are found in nature, and vadescana breaks down quickly in the environment.

As pollinators and the broader agricultural ecosystem face challenges, the registration is timely. Recently analyzed data from the Honey Bee Health Coalition reveals staggering honey bee colony losses, with 1.7 million colonies lost and commercial beekeepers sustaining an average loss of 62% between June 2024 and March 2025. Underscored by USDA researchers, this alarming trend is related to the declining efficacy of existing miticides as varroa mites have developed resistance to chemical treatments once considered reliable. As mites are less controlled, they bring high virus loads into colonies, leading to loss. Experts warn of ripple effects that could disrupt food production, drive up farmer costs, and threaten the survival of commercial beekeeping operations. Entomologists at Washington State University project colony losses could rise to 70% in 2025 without substantive action.

Mark Singleton, Chief Commercial Officer and General Manager at GreenLight Bio said "Norroa represents a breakthrough in honey bee protection from varroa mites, offering beekeepers an effective and easy-to-use tool that keeps mite populations down for up to 18 weeks, which is substantially longer than the existing products on the market. Norroa can be applied at any temperature, provided it's safe to open the hive, and has no negative impacts on brood, workers, or queens. Beekeepers have very few products available to them to control these destructive mites. We are proud to be bringing another tool to the fight against varroa."

Andrey Zarur, Chief Executive Officer, GreenLight Bio said "This cutting-edge, American-made technology that brings important innovation to U.S. beekeepers by harnessing the precision of our proprietary technologies. We're providing beekeepers with an environmentally conscious solution that specifically and effectively targets one of the most devastating threats to honey bee health. Norroa is safe for the bees and preserves the beneficial biodiversity and ecosystem balance of the surrounding area, aligning with sustainable agricultural practices."

Rigorous, replicated field trials conducted across multiple U.S. regions demonstrated extended mite control of up to 18 weeks, resulting in improved overall colony health. Researchers confirmed Norroa's performance against varroa mites and its safety for honey bees, humans, other insects, and the environment. As the first truly targeted mite control product ever developed, when Norroa is applied with low mite levels, it maintains them longer than anything else on the market. This results in healthier, stronger bees, and if timed right, can lead to more colonies surviving over the winter, which field data supports.

Varroa mites, which can double their population every 30 days, have evolved resistance to many chemical treatments, leaving beekeepers with few reliable options and intensifying the search for innovative approaches. Without significant intervention, experts warn of dire consequences for U.S. agriculture, which relies on honey bee pollination for more than 100 crops valued at an estimated \$20 billion annually.