

## Elemental Enzymes and UPL set new benchmark in biological crop protection with Strakor launch

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In a development that could significantly alter the battle against one of global agriculture's most persistent crop diseases, Elemental Enzymes and UPL Ltd. have announced the commercial launch of Strakor, a peptide-based biological solution designed to manage citrus greening disease, also known as Huanglongbing (HLB).

The introduction of Strakor marks a notable milestone for the citrus sector, as the product becomes the first and only registered solution in Brazil specifically approved for the management of citrus greening, a disease widely regarded as one of the most devastating threats to citrus production worldwide.

Developed using Elemental Enzymes's proprietary Vismax technology, Strakor represents the latest application of precision biology in agriculture, translating advanced peptide science into a scalable field solution aimed at improving plant resilience and long-term orchard productivity.

The launch comes at a critical juncture for Brazil's citrus industry, which remains one of the world's largest producers and exporters of orange juice. Citrus greening has inflicted substantial economic losses across major citrus-growing regions globally by reducing fruit quality, lowering yields and, in severe cases, causing tree decline and orchard abandonment.

Unlike conventional crop protection approaches that focus primarily on external pathogen control, Strakor is designed to activate the plant's own defense mechanisms.

The technology employs precisely engineered signaling peptides that stimulate natural immune responses within the plant. By triggering systemic defense pathways, the product enables crops to strengthen internal resistance against disease pressure, creating what the companies describe as a proactive and biologically driven protection strategy.

“Strakor isn’t just a product—it’s what happens when precision peptide science meets a grower’s real-world challenge,” said Brian Thompson, Chief Executive Officer of Elemental Enzymes.

“Together with UPL, we’re providing Brazilian citrus growers with their first registered tool against HLB, while also delivering broad-spectrum protection against bacterial and fungal pathogens. This establishes a new benchmark for what biological crop protection can achieve.”

Beyond its disease-management capabilities, the companies emphasize that Strakor has been developed to integrate seamlessly into existing production systems. The solution is compatible with current crop protection programs and can be incorporated into standard orchard management practices without requiring significant operational changes.

This ease of adoption is expected to be a key advantage for growers seeking practical solutions to increasingly complex disease pressures while maintaining productivity and profitability.

According to Mariana Yama, Product Manager at UPL Brazil, the launch reflects a broader evolution underway in agricultural management.

“Strakor represents an important advance in the way we approach agricultural production,” she said. “It brings together science, innovation and sustainability in a manner that supports more balanced and productive farming systems while helping growers address today’s increasingly complex field challenges.”

The product launch also signals a broader strategic shift for Elemental Enzymes as the company expands beyond technology development toward the delivery of commercially scalable biological solutions.

Over recent years, biological crop protection technologies have attracted growing attention from growers, regulators and investors alike as agriculture seeks alternatives capable of enhancing crop health while supporting sustainability objectives. Peptide-based technologies, in particular, are emerging as a promising frontier, offering highly targeted biological mechanisms that work with natural plant processes rather than against them.

For UPL, the partnership reinforces its commitment to expanding access to innovative and sustainable agricultural solutions capable of addressing some of the industry’s most pressing challenges.

As disease pressures intensify and growers increasingly seek integrated approaches to crop protection, the introduction of Strakor may represent more than a new product launch. It signals the arrival of a new generation of precision biological technologies that combine scientific sophistication with practical, field-ready application.

For Brazil’s citrus growers, the significance is immediate: for the first time, they now have access to a registered solution specifically designed to combat citrus greening. For the broader agricultural industry, the launch offers a glimpse into how precision biology may shape the future of crop protection in an era defined by sustainability, resilience and innovation.