

Boragen, a boron-based discovery platform, is collaborating with Dole in the search for innovative and more sustainable solutions to protect against banana disease Black Sigatoka.

Black Sigatoka is one of the most prevalent and damaging diseases affecting bananas.

“As pressure to reduce chemical load increases, and the number available crop protection products reduces, the need for alternatives to control this disease is more important than ever,” said Patricio Gutiérrez, research and innovation director for Dole Fresh Fruit.

“We look forward to collaborating with Boragen to develop new solutions to protect this nutritious household staple and improve the environmental, social and economic sustainability of the banana trade.”

Black Sigatoka, also known as black leaf streak, is caused by the fungal pathogen *Mycosphaerella fijiensis*. One of the most destructive diseases to commonly grown banana cultivars, it has developed resistance to several current fungicides.

If left untreated an entire plantation can be lost in only a few weeks. As an economically important crop and staple food within many countries, the effects of the disease on bananas and plantains represent significant production losses.

“We need to find new and innovative solutions to manage a fungus that is currently difficult to control,” said Boragen’s chief scientific officer and co-founder, Dr. Tony Liu.

“We are excited to work with the team at Dole to identify boron-based solutions to decrease the impact of this fungal disease in bananas.”

Boron, a naturally occurring element in the environment and essential micronutrient for plants, has only recently received attention in the life sciences, with breakthrough applications discovered in the pharmaceutical industry.

These scientific validations demonstrate the vast potential for boron chemistry, including new uses in agriculture. To harness this potential, Boragen is leveraging its team’s expertise and unique boron-based toolbox to develop novel agrochemical compounds with potent broad spectrum fungicidal activity with new modes of action (MOA).

Boragen’s crop protection library contains compounds that have multi-site MOAs to combat resistance, and require less active ingredients than current commercial multi-site products which are under regulatory review and scrutiny in a number of regions.

*Photo: Australian Banana Growers' Council*