Bio-control research surges, new products abound

By ANDREW OVERBECK

While bio-control products have gained a significant foothold in the U.S. turfgrass market, the young industry continues to redefine itself with new products, technologies and techniques almost daily.

"When you are talking biologicals you are talking about the soil ecosystem which is a new frontier that we are learning more about every day," said Rick Geise, brand manager for Nature Safe. "We are just scratching the surface right now."

Universities and companies are conducting research to determine methods to improve microbial efficacy, sustain microbial populations, identify specific beneficial micro-organisms, lengthen the shelf-life of products and combine products with traditional chemical applications.

BIOSTIMULANTS

Through a variety of delivery mechanisms, activities and organisms, biostimulants, generally, encourage healthy turf growth, increased root mass and improve soil quality to help turf survive weather- and disease-related stress.

However, new research and products are showing that some biostimulants have disease-suppressive qualities as well.

New Products

For instance, Sybron Biochemical’s TurfVigor microbial product line concentrates on feeding beneficial microbes in the soil to enable turf to fight disease more effectively by increasing the plant’s ability to absorb nutrients and develop a larger root mass.

"It allows the plant to turn on 'defense' genes. By inputting precursors to certain phytohormones, we can allow the plant to choose to turn on the genes to protect itself," said Dr. Dave Drahos, research and development group leader at Sybron. "At an application rate of every two weeks, they will have a benefit at helping the plant at certain growing points in the season that allow the plant to do much better at laying down a more branched root system that will take heat stress more efficiently and be more resistant to diseases like dollar spot."

Also new to the market is Plant Health Care’s Colonist biostimulant that contains mycorrhizal fungi to stimulate the rapid colonization of turfgrass roots.

"Colonist stimulates what is already there," said President Wayne Wall. "There is often some mycorrhizal fungi on greens, but not enough to provide a benefit because it is constantly being suppressed."

According to Wall, research has shown that greens with an abundance of the fungi are much healthier, produce more chlorophyll, absorb nutrients and are more resistant to drought.

Floratine Products Group’s Floradox system includes various soil, biological and turf-related products that work together to enhance the activity of pathogens.

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Education, research key to maintaining growth

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try concerned.

"The fact that there is not a regulatory body that has an independent voice lends itself to claims being made by companies and products that really don't do what they say they are going to do," said Max Gelwix, president and chief operating officer of Eco Soil. "Unfortunately, a failure by one company translates to us and we get colored by that failure. However, no one wants an over-regulated industry, either."

Many point to self-regulation as the way to weed out the dishonest companies.

"There are always good products and bad products," said Clare Reinbergen, president of Growth Products. "My experience is that the products that can't stand up to it fall by the wayside. When a customer expects something and they don’t get it, they aren’t going to go back and buy more."

Reinbergen also insists that EPA registration and the necessary university testing functions are a form of regulation.

"To get full registration by the EPA and get the test data to back up product claims costs thousands of dollars. A lot of companies are not willing to spend the money," she said.

Therefore, companies stress the importance of publishing independent university research data and using it to educate superintendents.

"Education is the single biggest guard against deceptive marketing," said Rick Geise, brand manager for Nature Safe. "Indeed, without data and university studies to back them up, many superintendents won’t even consider using the products."

"We went out to the Links at Spanish Bay to talk to the superintendent there," said Reinbergen, "and the first thing he said was ‘If you don’t have test data I won’t talk to you about a biological.’"

As a result, companies have been holding regular seminars for distributors and superintendents to educate them on biological controls.

Plant Health Care holds six seminars a year on below-ground ecology at its training facility in Beaufort, S.C.

"We take a step back and understand physiology and biology and chemistry of the soil," said Wayne Wall, president of Plant Health Care.

Eco Soil has also found training seminars to be effective.

"We held seminars all around the country this winter dealing with education issues. It may be a slow method of getting the word out, but it is more effective in terms of delivering information as opposed to sending out written documents," said Gelwix.

In addition to education efforts and university research that confirms a product’s claims, two companies are working with DNA fingerprinting to improve quality control and assurance of its products.

"We have been adapting pharmaceutical product-control testing standards for biological markets," said Wall. "We can now do DNA testing so that we are no longer subjective with respect to what organisms are in the product and how much."

This leads to definitive evidence that microbes get to the root and are active.

"We can track these microbes on the root and demonstrate that they are there, qualitatively and very accurately," said Dr. Dave Drahos of Sybron Biochemical.

"But we can also show the superintendent that these microbes have been isolated back off a root system and because of the power of DNA fingerprinting we know that they are the right strains."

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