

Innovators By Nature

Growers are using RootShield from BioWorks for a variety of reasons. Find out why.

by BRIAN KANTZ

GROWERS are curious by nature. They're forward thinking and open to new practices that result in a more vigorous and profitable crop. And, increasingly, they've been willing to go outside their traditional chemical comfort zone to reap the benefits of cutting-edge, biological-based products.

RootShield, a root biofungicide from BioWorks, is one of the products that has growers talking about the rewards of innovation – and the science behind it.

"We had been working with our BioWorks sales rep, Rich Reineke, and he put me in touch with several other growers who were using the product in one form or another," says Matt Stonecipher, a grower at Cumberland Trails Growers in St. Elmo, Ill. "Through his perseverance and positive feedback from other growers, we decided to give it a try and the rest is history."

After trialing PlantShield (a forerunner of the new RootShield WP formulation) on mums, Stonecipher says he witnessed clear results that proved the product was worth using. "The same varieties that had been treated in one area were of uniform size, shape, plant color, with nearly no losses, while the same varieties without treatment were still nice plants but had less vigor, less uniformity and a lighter

shade of green."

Now, Cumberland Trails' entire product line receives RootShield.

How It Works

RootShield works by protecting plant roots from harmful pathogens. This allows plants to grow more vigorously. RootShield contains dormant spores of the well-proven active ingredient *Trichoderma harzianum* strain T-22. Once applied to a growing medium, the spores germinate and the mycelium that emerges from the spores coil around plant roots and any plant pathogen propagules that are present.

Then, things get interesting. RootShield works in two ways: First, it gets to pathogen-preferred sites on the root first and denies access to the roots to diseases like Pythium, Fusarium, Rhizoctonia and Thielaviopsis. Second, it secretes enzymes that dissolve an invading pathogen's cell walls.

Roger McGaughey, a grower at Michael's Greenhouse in Cheshire, Conn., finds the science behind RootShield fascinating and enjoys telling other growers how the product works.

"When it comes down to it, you want to use something good to knock out the bad. That's kind of basic plant science," McGaughey says. "I think I've been explaining how it works to other people



Roger McGaughey of Michael's Greenhouse in Connecticut shows off the root system of an argeranthemum treated with RootShield.

too much."

McGaughey started using RootShield back in 2005 and later helped with the trials on the product's wettable powder formulation, testing two different materials to find out which one worked best. Today, Michael's Greenhouse uses drenching rigs to apply the product on everything it grows.

"We use RootShield on everything we grow. Everything. No exceptions," McGaughey says. "We always get nice, white root systems without exception, and our plants grow faster. I have absolutely noticed that. I have also noticed we're using less fertilizer because the plants have better root systems and they take up the fertilizer more efficiently. You'll never find yourself overfertilizing again."

How It Pays

Of course, beyond the science, growers like McGaughey really just want to tell each other about the benefits of using RootShield. All growers seem to have their own reasons – from sustainability to water management to time and labor savings – why they choose to use the product.

At Van Wingerden Greenhouses in Blaine, Wash., environmental concerns were a key factor in the company's decision to try RootShield, says head grower John Burns. Van Wingerden uses RootShield, which Burns buys pre-incor-



porated in soil, on all of its poinsettias.

"We're now VeriFlora certified as a sustainable business, so the environmental aspects of the product certainly appealed to us," Burns says. "We have a pretty extensive pest management plan and RootShield fits nicely in it. When you cut out applications of chemicals, you still need a way to manage pests effectively. RootShield helps us do that. We found virtually no pathogens after using the product."

In the Southwest, water management issues are paramount. By strengthening root systems, RootShield helps plants take up water more easily. That can mean a reduction in watering needs.

"New Mexico is dry and sunny with low humidity, so we don't have huge pathogen problems as it is," says Steve Salsman, production manager and head grower at Sunland Nursery Company in Mesilla Park, N.M. "But using RootShield really gives us that extra measure of protection."

Sunland pre-incorporates RootShield granules into a Ball mix and uses the product on everything it grows. At the same time, it's a good water management tool because the roots use water more efficiently.

There are also time and labor savings that result with faster-growing crops and the reduction and elimination of crop loss.

"You usually don't see root rot until it's pretty bad," says Bill Tuinier, a grower at Post Gardens in Rockwood, Mich. "And then the plant stops growing and you lose precious growing time. With RootShield,

we've been able to cut crop-growing time down. That's a pretty big deal."

Tuinier uses the product on poinsettias, Easter lilies, gerbera daisies and other sensitive spring plants. "Since using the product, we don't have any crop loss anymore," he says. "And that helps us be profitable."

In the end, all of these benefits do add up to cost savings and a healthier bottom line, the growers agree. And that's where innovation really pays off.

"The product pays dividends," McGaughey says. "The cost of the product is infinitesimal when you compare what you used to spend before using RootShield."

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About the author: Brian Kantz is a freelance writer based in Amherst, N.Y.

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