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# Biopesticides is fast-growing crop protection sector

Representatives of AgraQuest, a small but growing player in the crop protection marketplace and maker of biopesticides and "low chem" pesticides, were in Washington, D.C., in April to participate in the National Sustainable Design Expo, an event organized by the Environmental Protection Agency in commemoration of Earth Day.

Biopesticides are made from naturally occurring materials such as plants, animals, bacteria and minerals rather than synthetic chemicals and are therefore considered "green." However, AgraQuest CEO Marcus Meadows-Smith says his company's focus is on delivering products that work for farmers.

"We are looking to develop products that have the highest efficacy, are cost-effective for the grower and deliver yield increase," he said. "As a company we are passionate about the environment and making sure our products have a positive environmental profile, but we also recognize a grower is only going to buy our product if it's effective and contributes to his profit."

Even canola oil and baking soda are considered by EPA to be biopesticides because they can be used as antimicrobials. The first widely used biopesticide was a soil-dwelling bacterium known as Bt—*Bacillus*

*thuringiensis*—which is now used in biotechnology to control cotton bollworms and corn borer pests. Meadows-Smith says advanced Bt technology has been around for about two decades, "but then people stopped the research on such microbial technologies and I think it sort of went off the radar screen."

Bans of chemical pesticides are now generating new interest in biopesticides, he said.

"What's happened recently is that synthetic chemicals are being banned around the world, and that is leaving gaps in the portfolios of big agrochemical companies," he explained.

He says that Europe had about 1,000 active ingredients 10 years ago, but about 600 of those have been delisted or banned as a result of new risk assessments.

"Growers still need the tools," he said. "You've still got to combat disease and pests in the field."

The company says that new biopesticides also offer a solution when fungal diseases and pests develop resistance to existing pesticides.

AgraQuest, launched in 1995 and based in Davis, Calif., projects it will have 50 percent sales growth this year. The company's Serenade product, a foliar fungicide used mostly on fruits and vegetables, is its best seller.

Another product, Ballad Plus, is the company's first foray into row crops and large acreage. The product was launched into soy-



beans last year.

Meadows-Smith says that while all pesticide makers are competing for market share, he doesn't see biopesticides as being anti-conventional agriculture.

"What we're trying to do is improve conventional agriculture and make high-quality, low-residue food available to everyone at affordable prices," he said. "We're not negative toward conventional. We're working together with major agrochemical companies such as BASF and Bayer and we've got announcements in the works where other companies are interested in our pipeline products."

The holy grail is an effective alternative to methyl bromide, which was used as a soil fumigant important in growing straw-

berries and other produce until it was banned in 2001 under the Montreal Protocol treaty because of concerns it was depleting the ozone layer. Meadows-Smith said that AgraQuest is working on solutions.

"It has left a gap in growers' crop protection portfolios, and we are doing research at the moment," he said. "We have a couple of products that we would say are very strong contenders, but we're not yet ready to launch anything onto the market, unfortunately. We're probably two or three years away."



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