

innovation never stops: **still** 2021

TRIPLE PLAY

Encartis fungicide makes its long-awaited debut.

Editor's Note: BASF and Golf Course Industry are working together to tell the story of how three new products are coming to life for the golf market. This is the second part of a three-part series. The first part appeared in the April issue.

They listened, researched, developed, sent their work out for testing and examined the encouraging results of those trials. The BASF team involved with creating Encartis fungicide then spent more than a decade waiting to share their linear triumph with the golf industry.

"One of the things we kept hearing," says BASF senior technical representative Kyle Miller, "is that Encartis is the best fungicide never launched, because people didn't think we would be bringing it to the market."

Best. Fungicide. Never. Launched. Quite a description. Quite a reason why that description lasted a decade. "One of the reasons we decided

not to bring it to market is that we had Xzemplar," Miller says, "and Xzemplar has changed dollar spot control." At the time, BASF also had another blockbuster innovation coming down the pipeline in Maxtima® fungicide, a broad-spectrum, summer-safe DMI which was launched in 2019. Amidst all this in-

novation, BASF didn't stop thinking of new solutions to help end-users.

Building upon the success of Emerald® fungicide and following the widespread embrace of Xzemplar® fungicide and Maxtima fungicide, BASF moved to make Encartis™ fungicide its latest dollar spot and foliar disease tool available to golf



courses. The company introduced Encartis fungicide in July and the fungicide is available for purchase starting in September.

The origins of Encartis fungicide stem from Emerald fungicide, an SDHI labeled for dollar spot control launched in 2003. Boscalid, the active ingredient in Emerald fungicide, is also an active ingredient in Encartis fungicide. “Emerald is a huge part of where we are with Encartis,” says Miller, who has been involved with 15 product launches in more than three decades with BASF. “The first few years of Emerald, people said, ‘Well, it would be nice if it controlled some other diseases. It would be nice if it worked curatively.’ And that’s what spurred us to look at Encartis. There were a couple of little things that we felt we could improve upon and here we are.”

Encartis fungicide is a pre-mix formulation, featuring a second active ingredient in chlorothalonil. The presence of two active ingredients allows Encartis fungicide to provide preventative and curative control of diseases beyond dollar spot, including anthracnose, brown patch, and gray leaf spot. Encartis fungicide is being positioned as a product to control disease on fairways, although, Miller says, “there are other places on a golf course, such as greens and tees, where it can be placed just because of the diseases it picks up.”

BASF worked with university researchers on wide-ranging Encartis fungicide research in contrasting environments. NC State professor and extension specialist Dr. Jim Kerns performed dollar spot trials on cool-season turf during his tenure at the University of Wisconsin-Madison. Kerns left Wisconsin for NC State in 2012 and he continued those trials in parts of North Carolina using preventive applications with a disease forecasting model.

“With our trials at the University of Wisconsin, it was a different environment, and we were typically getting 21 days of control,” Kerns says. “I have always been a proponent that anything much past that is dictated by the disease pressure and environment. There are times where 28 days is not going to be sufficient because dollar spot ebbs and flows.

What about warm-season turf?

Yes, the potential to use Encartis fungicide on warm-season turf exists. Let Clemson University turfgrass pathology professor emeritus Dr. Bruce Martin explain.

“The fit is going to be on greens,” he says. “We do see dollar spot on Bermudagrass greens and it’s misidentified sometimes as leaf spot, and the two diseases occur simultaneously on Bermudagrass greens. Chlorothalonil has activity on both pathogens. On other warm-season grasses, we do see dollar spot on zoysia and there’s increasing interest with zoysiagrass greens in the South. I can see a nice fit there, almost similar to what you might have on bentgrass greens, because zoysiagrass is more susceptible to dollar spot than Bermudagrass. Seashore paspalum is a major turfgrass in various parts of Florida and dollar spot is probably the No. 1 disease on seashore paspalum, so it would have similar uses to what you would see on a bentgrass fairway in the Northeast.”

If you are timing it right and using some type of forecasting system, you can easily get 21 days of control. We have done some follow-up testing with Encartis in the mountains of North Carolina and we have gotten 21 days. That’s pretty remarkable, because some of these areas get 60 to 70 inches of rainfall every year and to get 21 days is outstanding.”

Purdue University professor emeritus Dr. Rick Latin first observed Encartis fungicide before the solution was known as Encartis. “It first appeared in our research program as a numbered compound, but we knew that it was a combination of boscalid and chlorothalonil,” he says. “It proved to be very effective in terms of disease control for dollar spot.”

Multiple advantages exist when combining two proven active ingredients such as boscalid and chlorothalonil.

“The first one is simple,” Latin adds. “By increasing the spectrum of activity, you’re reaching more target pathogens. But I really think the more important advantage is the increase in the potency of the treatment. Two active ingredients attacking a fungal cell at different targets will ensure greater likelihood of cell death. The more we reduce the number of pathogen cells, the greater we reduce pathogen populations—and reducing pathogen populations is the key to longer periods of control. In terms of combining these two active ingredients in an optimized formulation ... I think it’s something that’s long overdue in our industry.”

Clemson University turfgrass pathology professor emeritus Dr. Bruce Martin started

studying Encartis fungicide in 2009 on ‘Crenshaw’ bentgrass greens in South Carolina. Encartis fungicide was just a numbered compound at the time. Martin says his team picked ‘Crenshaw’ to perform the trials because the variety “is maybe the most susceptible bentgrass that we had ever seen for dollar spot.”

“We did that purposefully,” he adds. “If there’s a weak point in a fungicide to dollar spot, it would come out in ‘Crenshaw’ and we could detect it. We also have other diseases on greens because we are in a more humid, hot environment in the summer-

time, so we have anthracnose that can come into bentgrass and we have brown patch. The addition of chlorothalonil helps with a broad spectrum of diseases that we may see on bentgrass greens.”

When and how is Encartis most effective? Consider it a potential leadoff hitter for dollar spot control.

“I would position it early in the season,” Latin says. “You have chlorothalonil as a protectant and you have boscalid attacking any infection that may have occurred, keeping the population low. You can go anytime through the season, but early in the season for that first application is advisable.”

Encartis fungicide can also be the pesky No. 9 hitter. Miller calls the first and last sprays of the season “the foundation for everything that goes in the middle,” and he says Encartis fungicide fits nicely into both slots.

“This bookend program that we talk about is getting off to a great start, putting Encartis out before you have any disease problems, so that you stay clean going into the season, then at the end of the year we want to go into the offseason with really healthy, good-looking turf,” Miller adds. “It nails down the end of the year. That’s how I think of a bookend program, ... it sets you up for success.” ■

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