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benefits that have not been observed to the same degree with BASF's two other Intrinsic fungicides, Honor and Insignia. Featuring the broad spectrum foliar fungicide pyraclostrobin, along with fluxapyroxad, Lexicon Intrinsic will also be able to withstand stresses like extreme temperatures and weather conditions, as it refines the vitality of turfgrass, increases photosynthesis, and strengthens grass roots. In addition, it is labeled for 26 different diseases in all, including brown ring patch, dollar spot and pythium root dysfunction.

"It will be a particularly excellent treatment for dollar spot on cool-season putting greens and fairways, while also protecting against brown patch and anthracnose," says Jim Kerns, Ph.D., Assistant Professor and Extension Specialist for Turfgrass Pathology at N.C. State University.

In the past, Kaufman and his staff have used a variety of fungicides with plant health benefits, as they have improved Prestwick CC's turfgrass appearance and vigor, despite variations in weather conditions. For example, in 2012, he began to apply Honor Intrinsic four days prior to his core aerification of greens, resulting in a near immediate healing of aerification

WORKING FROM THE ROOTS UP

To protect Sugar Creek CC's bermudagrass from diseases, Chris Lineberger applies a strobe family fungicide

As the superintendent of Sugar Creek CC, Chris Lineberger knows firsthand just how extreme weather conditions can be in Sugar Land, Texas, a city located about 20 miles southwest of Houston. From droughts to torrential downpours, as well as regular variations in temperature, Lineberger never knows what to expect.

"Our weather is so different here, as most years our grasses never go completely dormant," says Lineberger. "We have a lot of highs and lows in the winter where the grass will start to shut down, so to speak. Then the temperatures will suddenly rise, then fall back down, and then rise again."



Chris Lineberger

Consequently, three diseases tend to remain prominent on the course every year — leaf spot in the early spring, fairy ring and bermudagrass decline in the summer.

"Decline usually hits in the heat of the summer when we are doing our most aggressive cultural practices," he says. "The only problem then is that the times in which we have our most extreme, hot temperatures are when our grasses need the most cultural practices."

Luckily, Lineberger has a solution: to apply a strobe family fungicide prior to any aggressive cultural practices. He has found that, whenever he has to be more aggressive with bermudagrass, due to extreme weather conditions and temperatures, fungicides offer additional protection against future pathogens for which ever turf remains and surrounds the diseased grass.

Although he intends to continue to use fungicides in the future, he stresses that any one specific product will not be a "cure all" for diseases.

"I think every situation and every location will vary. What might work for us, might not work for everyone," he says. "I believe it takes a complete package to maintain plant health. You should always know when your stress periods occur and then add in a plant protectant, when necessary."

He adds, "During stress periods, my team and I always work from the roots up. The stronger you are down below, the better you will be up top."



"I saw an increase in the fibrous roots, leading to deeper root structures," says Van Dunk, New York CC.

holes. Consequently, he is now intrigued by the potential of Lexicon Intrinsic.

"The effect of the Honor Intrinsic has been so pronounced that it has become 'standard operating procedure' to apply the fungicide prior to core aerification, or at any time we felt the greens could use a little something to get through tough conditions," he says. "However, from everything we have been hearing about Lexicon, it seems it will be like Honor Intrinsic on steroids, in respect to its plant health benefits."

Meanwhile, Xzemplar is also anticipated to offer broad turfgrass benefits. Developed through carboxamide technology,

Xzemplar will provide superintendents a key ingredient that BASF's Emerald did not — the Xemium component, which features the active ingredient fluxapyroxad, to protect turfgrass from susceptible fungi development. By attaching to spores and vegetative mycelia present at the time of application, fluxapyroxad inhibits fungal cell growth during the earliest stages of disease development, so that future infections are avoided.

Preparing for the future

While working as a superintendent at Eastchester, N.Y.'s Leewood GC, Hermen

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