

**For Immediate Release**  **For further information:**

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**Researchers Find a Better Way to Control Microdochium Patch on Putting Greens**

Controlling Microdochium patch, or Fusarium patch as it’s also known, is a problem for golf courses in cool-weather climates like the Pacific Northwest. Golfers don’t like the dinner-plate-sized dead spots the fungus creates on greens because they’re ugly and can send putts off line.

Control means regular applications of synthetic fungicides – every three to four weeks nine month out of the year – or about 15,000 applications just in the Pacific Northwest alone. That costs the typical golf course about $20,000 a year.

But new research, conducted by Oregon State University’s Alexander Kowalewski and funded by the Western IPM Center, is developing ways to manage Microdochium patch that are both better for the environment and far cheaper for course managers.

Kowalewski and graduate research assistant Clint Mattox found that combining commercial crop oil Civitas One, developed for turfgrass disease and insect suppression, with sulfur or potassium phosphite was very effective at controlling Microdochium patch. They also determined that applications of iron sulfate plus light rates of nitrogen were equally effective.

“Our untreated test plots had about 40 percent disease,” Mattox explained. “The plots treated with Civitas One and sulfur, many of them had no disease, and some had just one percent disease. It’s as effective as synthetic fungicides.”

The research is being successfully replicated at Washington State University, as well.
Kowalewski said the research also showed a surprising finding – that nitrogen applications to greens through the winter can be good.

“The traditional recommendation is to stop nitrogen applications through the winter,” he explained. “What we’re seeing is that the turf is better off with some additional nitrogen.”

Further, the researchers estimate these treatments would save the typical golf course more than $14,000 a year, which translates to a savings of $4.5 million in Oregon, Washington and Northern California alone.

One part of Mattox’s research is recreating the foot traffic a typical putting green sees during the week, so for five days a week, he’s out walking over particular test plots in his golf shoes.

“One day I’m out for 86 minutes, one day 20 minutes, one day 10 minutes, one day six minutes and one day five,” he said. “It simulates 73 rounds of golf.”

Mattox, who came to Oregon State after several years as a golf course manager in Europe, said a non-synthetic management option is especially important there.

“Europe is really tightening down on pesticides,” he said. “We’re starting to see those pressures in the States as well, so another IPM option will be welcomed.”

Both Civitas One and the sulfur being used in the tests are approved for organic production. Potassium phosphite is labeled as a synthetic fertilizer, so is not organically approved.

Over time, the sulfur, potassium or iron would increase the acidity of the soil and eventually damage the greens, so the next step in the research will be to test ways to buffer the acidity of the treatments with various calcium sources and to make sure that these treatments for a winter disease don’t cause unexpected problems in the summer.

For the Western IPM Center, the research is the latest example of the West’s diverse pest-management needs.

“Most of the funding proposals we receive are for pests in production agriculture or community settings,” said Western IPM Center Director Jim Farrar. “So this was somewhat unusual, and the researchers did a great job identifying a new and promising IPM solution for golf course managers. Within a few years, I think we could see a new IPM tool for this disease because of their work.”

The Western Integrated Pest Management Center promotes IPM practices to solve pest problems in agriculture, communities and natural lands throughout the West. It encourages a science-based approach to pest management using pest biology, environmental information and all available technology to reduce pest damage to acceptable levels by the most economical means, while reducing the risk to people, property, resources and the environment. The Western IPM Center is one of four regional centers funded by the USDA’s National Institute of Food and Agriculture to promote IPM practices, and serves 13 Western states and Pacific island territories.

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