Two Ohio superintendents discovered an innovative solution to moss problems on their greens after other solutions produce mixed results.

By Frank H. Andorka Jr., Managing Editor

The hardest part of controlling moss on greens is that there’s no sure-fire way to eradicate it. Some superintendents use iron sulfate. Others swear by ammonium sulfate or copper sulfate. The use of Ultra Dawn (the dishwashing soap) has spread quickly to many parts of the country. Unfortunately, there’s no one method that works perfectly for all superintendents.

That’s what spurred superintendents Tom Vogel and Rob Miller to try a radical solution as moss populations expanded on their course’s greens.

Vogel, certified superintendent at Portage CC in Akron, Ohio, had persistent moss problems on about six greens. His treatments ran the entire gamut of the methods mentioned earlier, and he still couldn’t get a consistent kill that would leave the greens undamaged.

“I wasn’t getting as much control as I needed, and the members were starting to ask questions,” Vogel says. “After having met with limited success with other methods, I decided I needed a new solution.”

Down the road at Glenmoor CC in Canton, Ohio, superintendent Rob Miller came to the same conclusion about the hard-to-eradicate moss on two of his greens. “We could see the moss starting to expand, and we knew we needed to stop it in its tracks,” Miller says.

Certified superintendent Tom Vogel heard about using baking soda for moss control from a salesman.

The problem

Moss poses a complex problem for superintendents because it can live under duress for long periods of time, according to Tony Koski, an extension turf specialist at Colorado State University in Fort Collins, Colo. Moss is a bryophyte, meaning that unlike turfgrass it has no roots or vascular system, reproduces vegetatively or by spores, and can survive long periods of desiccation. These factors taken together make it hard to design a fungicide to eradicate it.

At the same time, the problem has reached epidemic proportions in recent years because more intense turf management has created perfect conditions for moss survival, Koski says. These practices include low mowing heights, lower nitrogen rates on greens, discontinued use of mercury-based fungicides and use of finer topdressing sand, which inhibits good drainage by creating a perched water table.

Koski says his research shows that the Ultra Dawn was the most effective of the several methods he tested. (Ultra Dawn is most commonly applied in a spray form at a ratio of 4 ounces/gallon of water, and superintendents should drench the moss with the solution.)

But Vogel, who tried the Ultra Dawn treatment on his problem greens, says it’s tricky to apply.

“You have to get the timing exactly
right, and the weather conditions have to be ideal for it to work properly," Vogel says. "It has to be a completely sunny day, but it can't be too hot [Editor's note: Koki says that Ultra Dawn should be applied between 55 degrees F and 80 degrees F in full sunlight.] For some of us, that makes it tricky to do in the summer."

Miller hoped to burn his moss out of his greens and tried the Ultra Dawn and hydrogen peroxide treatments, but neither gave him the control he wanted.

"You'd make the application, and it looked like it worked," Miller says. "It would turn the moss brown, and it would appear to be dead. But two weeks later, it would be back, and it was stronger than it was before you tried to kill it."

Vogel was nearing his wits' end when a salesman from J.R. Simplot came to visit. As they sat in his office discussing the salesman's products, Vogel mentioned his moss problem. The salesman paused for a moment, and then told Vogel he'd heard that some superintendents were having success with an entirely new method of moss control: baking soda. Though he wasn't sure how he was going to get it out on his greens, Vogel thought to himself, "This idea is so crazy, it just might work."

Less than 25 miles away, Miller was also coming to the same conclusion.

"It kind of came to me happenstance when I was talking it over with my assistant, Jerry Cox," Miller says. "He had heard about the baking soda idea, and suggested we try it. It couldn't work any worse than anything else we'd tried."

The solution

Vogel says he played around with the right amount of baking soda to apply during last summer's brutal heat. Since he didn't have any details about an appropriate rate, he experimented with it.

"I was excited, but I was scared at the same time," Vogel says. "I was scared at the same time," Vogel says. "I was excited, but I was scared at the same time," Vogel says. "I was excited, but I was scared at the same time," Vogel says. "The biggest question I had to answer was how to get the baking soda from the box to my greens."

First, Vogel tried to use a saltshaker, but the holes were too small. Then one day while Vogel watched the cook in the course's restaurant shake powdered sugar on to each delectable order, an inspiration came to him.

Vogel took one of the myriad powdered-Continued on page 76

"After having met with limited success with other methods, I decided I needed a new solution."

TOM VOGEL
CERTIFIED SUPERINTENDENT
PORTAGE CC
AKRON, OHIO

Read another Real-Life Solutions on page 88.
Continued from page 75

sugar shakers from the kitchen, filled it
with baking soda and covered 90 per-
cent of the holes. Then he took it out to
his greens and shook it twice. The bak-
ing soda landed on the moss, but also
landed on the turf surrounding it, caus-
ing some phytotoxicity. “Two shakes
was far too much,” Vogel says.

After more trial and error, Vogel
learned the best way to apply the baking
soda is to put the powdered-sugar shaker
on its side next to the moss patch and
gently tap the shaker, allowing a puff of
baking soda to land gently on its surface.
“It sucks the moisture right out of
the moss,” Vogel says. “We had what we
considered a severe problem, and we got
100-percent control with a little bit of
product.”

Miller, on the other hand, applies his
baking soda two ways. First, he uses a
saltshaker for smaller moss spots the size
of a quarter or less. For larger moss
patches that are inextricably intertwined
in the turf, Miller concocts a less “hot”
application by mixing 6 ounces of bak-
ing soda per gallon of water and applies
it with a backpack sprayer.
“It took us a while to figure out what
rate worked best for us, but more than
6 ounces was too hot,” Miller says. “On
the other hand, if you go any lower than
that, you won’t have the desired effect.”

Miller says he also does spot applica-
tions with spray bottles, but he warns
that the mixture must be shaken periodic-
ally to keep the baking soda in suspen-
sion. He also raves about the length of
control, which can be anywhere from
two to four months. “Compared to
some of the other products I’ve used,
the control is amazing,” he adds.

Outcome

Vogel says he was so pleased with his ex-
periment last summer that he’s planning
on doing it again this year, possibly sus-
pending it in water like his colleague
Miller did. The two downsides — that
baking soda is not labeled for turf and
the mild phytotoxicity it causes — are
outweighed by the positives, which in-
clude no weather restrictions on its ap-
lication and the long-term moss con-
trol it provides.

“One I told my members not to
worry about the slight yellowing of the
turf in the patches where the moss had
been, they were delighted we were con-
trolling the problem,” Vogel says.
“You’re not handcuffed by the calendar
anymore.”

Miller adds that he plans to apply
baking soda to problem greens in the
spring and fall this year.
“You always see complete control
when you put it out,” Miller says. “It’s
the consistency of the process that I like.
My comfort level with baking soda is
high.”

Don’t criticize your irrigation system for your continuing
water management problems. It’s not your system’s fault -- it’s
your soil. That whole water repellency thing. The water may be
delivered flawlessly, but what do you do to ensure it gets in the
soil where it belongs? Never fear, Aquatrols has the solution.
Dispatch injectable surfactant optimizes your irrigation efforts
by getting the water into the rootzone uniformly, minimizing
runoff and evaporation. Not only will you get more uniform
turf conditions, you’ll also reduce overall water consumption.

What are you waiting for? Optimize.

Aquatrols
5 N. Olney Ave. • Cherry Hill, NJ 08003 • USA • (800) 257-7797 • www.aquatrols.com