

SOLID METAL PROFILE GOLF NOZZLES:

Improving Distribution Uniformity and Extending Sprinkler Life

By Nancy Hardwick

Golf courses with aging irrigation systems often have similar concerns about clogged nozzles and inconsistent distribution uniformity, which can result in donuts and dry patches or over watered and saturated areas.

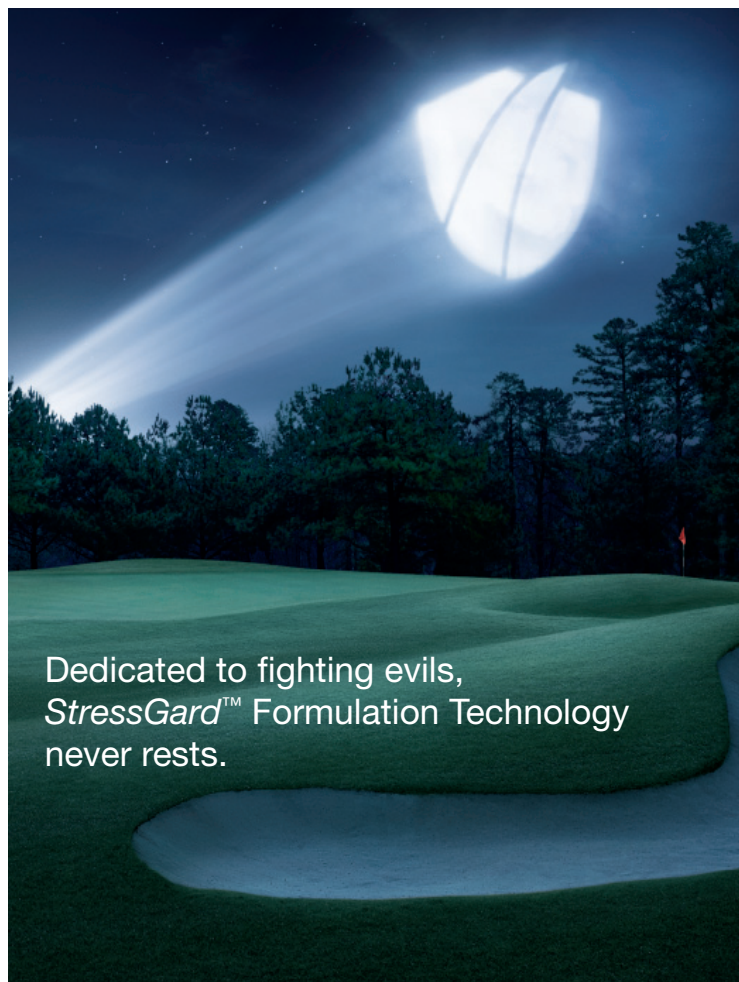
After exhausting traditional remedies, such as head adjustments, pressure checks, nozzle clean-outs and hand-watering, many superintendents have settled on a more long-term, labor-saving solution. They're replacing plastic

nozzles with solid metal Profile Golf Nozzles from Underhill International.

A recent change-out at the Tacoma Country and Golf Club by Superintendent Joel Kachmarek illustrates what many superintendents have experienced. He reported:

“Soft areas were appearing around the heads of our Eagle 700s. When we adjusted the sprinklers to cut back on watering, we ended up with donuts in the 15- to 20-foot range.

“Then the nozzles started clogging up. With older courses, you're going to



Dedicated to fighting evils,
StressGard™ Formulation Technology
never rests.

Protect your course with the most powerful technology out there. When it comes to overall plant health, Bayer fungicides with *StressGard™* Formulation Technology give you control when it matters most. We've developed these products to work at a cellular level, strengthening turf and fighting against evil stressors like heat, drought and traffic so you'll have the strongest, healthiest turf and happy golfers. **To learn more visit BackedbyBayer.com/StressGard.**

Tartan® | Chipco Triton® Flo | Interface® | Chipco® Signature™ | Reserve®

Our five quality fungicides with StressGard Formulation Technology are proven to have preventive and curative properties against disease.

Contact Info:

Mike Kelly
Area Sales Manager
MN, IA, NE, ND, SD
952-292-1966
mike.kelly@bayer.com
www.backedbybayer.com



Bayer Environmental Science, a division of Bayer CropScience LP, 2 T.W. Alexander Drive, Research Triangle Park, NC 27709. 1-800-331-2867. www.BackedbyBayer.com. Chipco, Chipco Triton, Interface, Reserve and Tartan are registered trademarks of Bayer. StressGard and Signature are trademarks of Bayer. Not all products are registered in all states. Always read and follow label instructions carefully. © 2011 Bayer CropScience LP.



Bayer Environmental Science



have mainlines and metal fittings that are 60 to 70 years old. They flake and rusty particles plug up the heads, especially in the short range nozzles. Even plastic particles show up. The crew was spending too much time cleaning out the nozzles, along with hand watering the donuts. It was a no-win situation.”

Kachmarek heard about Profile nozzles several years ago and finally decided to run a test.

“We ordered 12 Profile nozzles last year and saw results within days. The Profile nozzles improved distribution uniformity practically overnight. The soggy soft spots disappear and the donuts greened up. The clogging nightmare was over too – uninterrupted streams of water now irrigate the turf evenly and consistently.

“By the end of the first week, we decided to switch over the entire course,” he said.

“With the Underhill nozzle operating at the correct pressure, 70 psi, we have excellent distribution which translates into better playability, consistency, and minimal hand watering.”

Extending The Life of The Sprinkler

Manufactured from solid brass and stainless steel, Profile nozzles have become the new industry standard for improved distribution uniformity and for extending the life of the sprinkler.

The nozzles’ heavy-duty construction and unique shape are the result of years of technical innovation and performance evaluations. They recently underwent two years of on-site and laboratory tests

conducted by Dr. David Zoldoske at the Center for Irrigation Technology (CIT) at California State University, Fresno, where they were shown to improve irrigation efficiency and distribution uniformity on six test courses.

DU rate is typically a barometer of turf condition and indicates whether a sprinkler is delivering uniform irrigation coverage. A low DU rate of 0.55 or less indicates that coverage is inconsistent, resulting in dry spots, donuts or over-watered, saturated areas. A high DU rate of 0.80 or better shows that irrigation is uniform, resulting in healthier turf and improved appearance. With a higher DU rate, sprinklers can be programmed for shorter run times, saving water and energy.

More Efficient Irrigation

With improved DU, superintendents are able to water less often and reduce run times. CIT concluded that Profile metal nozzles retrofitted to Rain Bird or Toro golf rotors performed with consistently higher distribution uniformity. Each course in the study saved approximately 6,000,000 gallons annually with the Profile nozzles.

The nozzles are designed to retrofit Rain Bird sprinklers with 1 ¼” and 1 ½” inlets, including Eagle 700 and 900 Series; and Toro golf nozzles with 1” and 1 ½” inlets, including Toro 670, 690, 730, 750, 760, 780 and 830 Series. They offer full-circle, mid-range and close-in

coverage.

Switching out the plastic nozzles is a relatively easy procedure and the Profile nozzles will typically deliver eight to 10 years of performance. Often, the solid metal nozzles outlast the original rotors.

Not Just a Regional Solution

“Improving uniformity by retrofitting sprinklers with metal nozzles is not only for arid West Coast courses,” says Kurt Thompson, an irrigation consultant and trainer with offices in Huntersville, NC and Pace, FL.

“There is a significant opportunity for golf courses east of the Mississippi to benefit by using these nozzles to solve coverage problems on greens and throughout a fairway.

“A key economic advantage of this solution is that it can be done in-house by the irrigation staff in phases, as directed by the superintendent, to meet the scheduling and budgetary needs of a course,” he said.

Thompson says that the most effective results come from completing a system evaluation first in order to evaluate all the circumstances and conditions affecting the system’s uniformity.

“That way the superintendent and course management are aware of all the options available to them to increase uniformity and conserve resources,” he said.

Kevin Hutchins, former

superintendent at Mission Viejo Country Club in southern California, retrofitted his entire new Rain Bird irrigation system with solid metal nozzles:

“We found that FCI Profile nozzles apply water more efficiently and eliminate turf stress.

“Our course has sandy soil conditions and the original plastic nozzles were plugging up. The new full-metal nozzles are more sand-tolerant and have improved course appearance and eliminated unsightly dry spots,” he said.

At the Los Angeles Country Club, former Superintendent Bruce Williams had several issues. The irrigation was uneven and the course had noticeable donuts and patchy dry spots. When more water was applied to compensate, over-saturation was the result.

“We heard about solid metal nozzles and replaced the plastic nozzles on 2,200 heads. This eliminated donuts while also improving irrigation uniformity...while saving water. We have been very pleased with the results.”

Custom Made For Rain Bird and Toro Heads

With popularity comes scrutiny and one of the keenest observers of golf irrigation practices is Brian Vinchesi, nationally-known irrigation educator and president of Irrigation Consulting, Inc. of Pepperell, MA, and Huntersville, NC.

Vinchesi became acquainted with Profile nozzles through both the CIT study and cross-country business travel, talking with superintendents who had installed the solid metal nozzles.

2012 Gun Raffle for Research ARE YOU GAME???



MGCSA Gun Raffle for Research
\$5 per chance or \$10 for three chances



Weatherby Orion Grade 3 over/under 12 gauge shotgun
\$2,500 retail value
jack@mgcsa.org for more information

Add Vision Pro™ Application Aid and VigaROOT® Turf Conditioner to your turf management program for professional results.

VigaROOT biostimulant blend helps reduce stress and stimulate root growth through enhanced water and nutrient uptake for stronger roots and healthier turf.

Vision Pro spray application aid helps professional turf managers achieve uniform applications of plant protection products with the added feature of a long-lasting, natural-looking turf color.

Contact Superior Turf Services, Inc. today to find out how to strengthen and protect your turf.

STRENGTHEN AND PROTECT YOUR TURF



Superior Turf Services, Inc.

952-949-3889 • www.superiorturfservices.com
17525 Lorence Way, Eden Prairie, MN 55346

Larry Thornton **Matt Schmid** **Doug Zobel**
612-804-1692 612-366-4128 952-201-9499

Warehouse address:
Superior Turf Services
7675 Washington Ave. So.
Edina, MN 55439

Manufactured by

BECKER UNDERWOOD
Inventing the Future

®.™ Trademarks, registered or applied for, of Becker Underwood, Inc., Ames, IA.

“What sets Profile nozzles apart is they are essentially ‘custom made’ for the industry’s most popular golf heads,” said Vinchesi.

“They’re not a product that can be mass produced and still perform at the same level of consistency. The precision required for uniform coverage is better accomplished by a smaller manufacturer with good quality control,” he said.

In surveying irrigation systems at hundreds of courses in the U.S., Vinchesi has concluded that older sprinklers deliver very poor distribution uniformity, which can only be minimally improved with maintenance.

Sprinkler heads manufactured in the 1980s and 1990s were, in fact, never

designed to deliver optimum DU, he says, as water use was not an issue.

The options for superintendents have been limited up to now. Typically, courses either replaced the internal mechanisms or the entire head, or resorted to daily hand-watering of dry patches during the summer.

“However, in this current economic climate, Profile metal nozzles have become a practical and relatively inexpensive solution to improving distribution uniformity without the expense of replacing a golf sprinkler or its internal mechanism,” Vinchesi says.