

Healing POWER

BRUTAL HEAT AND AN AWFUL DROUGHT. JUST



Pablo Morales gives a quick drink to No. 17 green at Lawrence (Kan.) CC. (Above) Fans have been working overtime — just like crews — to keep greens alive all summer.



ANOTHER SEASON AS A SUPERINTENDENT, RIGHT?

Now that it's winding down, let our research editor and three of his colleagues discuss how to heal your course best.

BY CLARK THROSSELL, PH.D.

DESPITE ALL THE STRESS the hot, dry weather has caused on cool-season grasses, there are a few positives that superintendents can build on.

Positives?

Yes, says Aaron Patton, Ph.D., assistant professor of turfgrass science at Purdue University. He related an experience he had with a superintendent one stressful summer.

The superintendent told him it was the worst summer he had experienced from a turfgrass performance perspective... and the best summer in terms of learning about the weaknesses in his agronomic programs.

Due to the stressful summer, the superintendent was forced to re-evaluate all aspects of his agronomic program and build a better program for the future.

Another record-breaking hot, dry summer has taken hold of cool-season grasses on golf courses across the northern U.S. The damage is done.

But what can we gain from it? Are there unique problems associated with the drought? Are there any opportunities to pursue? How can superintendents get the turfgrass stand back to the level expected in a reasonable timeframe?

Spotting weakness

Continuing in the philosophical vein, Tony Koski, Ph.D., extension turfgrass specialist at Colorado State University, says a hot, dry summer was a great opportunity for superintendents to teach golfers and club leaders about the challenges experienced during a drought that are not seen at other times.

Drought exposes any flaws or weaknesses in the irrigation system. Pete Landschoot, Ph.D., professor of turfgrass science at Pennsylvania State University, and Koski have seen courses this summer showing the impact of poor irrigation coverage.

Some shortcomings can be fixed in-house. In other cases, the shortcomings are major and system wide.

"Now is a great time to conduct a tour of the golf course with the leadership at the golf course to show them the problems with the irrigation system and how the weaknesses in the irrigation system are negatively impacting turf performance," Koski suggests. "There is no substitute for the club leaders to see and experience the irrigation problems first-hand. A tour can set the stage for irrigation system improvements."

Unique problems

Last month, the U.S. Drought Monitor listed 54 percent of Indiana in extreme drought, with 99 percent of the state in at least moderate drought.

Kyle Allen, assistant superintendent at The Bridgewater Club in Carmel, Ind., is feeling the heat in

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every way.

Faced with several 100-degree days, “we’ve been working quite a few hours,” Allen says. “I’ve been working 12- to 14-hour days up until now. It’s been rough. The extra hours we’re doing are purely watering to keep the grass alive.”

The drought problem in Indiana started last winter, according to Patton.

“There was no snowfall, which left irrigation lakes low. High temperatures and no rain in early spring meant superintendents needed to irrigate starting in March,” he says. “Irrigating in March meant already limited water supplies were depleted early in the season with no recharge due to the drought.”

Koski sees problems this summer associated with overwatering since all the water applied to the turf is coming from the irrigation system and in some cases superintendents are forced to overwater because of poor coverage. Koski reports more pythium and anthracnose on greens in Colorado this summer due to poor irrigation coverage and the resultant overwatering that normally occurs. “Crabgrass, spurge and other summer annual weeds are very competitive under hot, well-watered conditions,” Koski says. “The end result is a less playable turf and more money spent to control these problems.”

Golf courses irrigating with effluent are experiencing problems trying to leach salts out of the rootzone, reports Koski. Since no leaching of salts is occurring due to natural precipitation, superintendents have to increase the amount of irrigation water applied to prevent salts from accumulating in the rootzone.

With adversity, opportunities

Patton, Landschoot and Koski all agree that annual bluegrass (*Poa annua*) will thin out and die in greater amounts this summer than in a normal summer. Steve Blais, assistant superintendent at Garden of the Gods Club, Colorado Springs, Colo., is keenly aware of that possibil-



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ity. Between the summer’s wildfires and drought, Blais has seen enough dryness for one summer, especially on his annual bluegrass greens.

“The biggest challenge is, we’re seeing a lot more hot spots on them,” he says. “That has to be constantly monitored throughout the day. With any heat like this — right now it’s 81 degrees at 9 in the morning — dead spots will come up overnight. When the heat’s beating down, it can’t keep up.”

In response to the scorching heat, the golf course maintenance team at Garden of the Gods Club raised mowing heights. “We tried to go lower, but that didn’t work out because it got really hot on us,” Blais says. “Now we have to roll greens about five, six times a week to keep ‘em as fast as our members would like.”

Even superintendents who want to see annual bluegrass suffer are faced with good news and bad news. The good is that dead annual bluegrass provides an opportunity to overseed a desired turfgrass species to improve the existing turfgrass stand. With less competition from annual bluegrass, the seed of the desired species has a better chance to establish and survive.

The bad is that the hot, dry weather

also has caused the desired turf to thin out, creating an opportunity for annual bluegrass to become established. Anywhere on the golf course where the desired turf has lost density, be prepared to control annual bluegrass as it germinates or as it emerges from the soil or the annual bluegrass population likely will increase on the golf course.

Keep in mind the annual bluegrass will be back. If an area is overseeded this summer or fall that had a high population of annual bluegrass in the past, develop a plan using herbicides and/or growth regulators to control annual bluegrass as it germinates so it does not outcompete the desired species and dominate again.

But an opportunity presents itself to change turfgrass species or cultivars that are better adapted to the golf course.

Landschoot says a golf course in northeast Pennsylvania is going to reseed the rough later this summer with a blend of turf-type tall fescue to take advantage of its excellent heat and drought tolerance. The fine leaf texture of turf-type tall fescue and its ability to tolerate certain annual bluegrass control herbicides make it a great fit for rough on many golf courses.

“The improvements in cultivars over time are remarkable,” Landschoot says.



(Above) Golfers understand that a green outranks a fairway when it comes to water. (Left) Where areas are weakened by the summer weather, consider it an opportunity to seed in a stronger grass variety. (Right) Sometimes it's best to sod in a damaged area in order to get back to playable fastest.

see and experience the irrigation problems first-hand.
for irrigation system improvements. — TONY KOSKI, PH.D.

“(Superintendents can) take advantage of this renovation or overseeding to establish a species or cultivar that is better than the one currently growing. Use the time now before overseeding to identify species or cultivars that have the characteristics that will improve the turf stand.”

Returning to normal

Each golf course is different and the expectations are different. Recovery plans must be tailored to the specific needs of each site on the golf course.

In Colorado Springs, Blais doesn't even want to think about what's coming for his club's water budget.

“On the golf maintenance end, I'm most concerned because our water budget for the year has just been blown out of the water, pardon the pun,” he says. “Thankfully, the ownership is willing to spend money to keep the course alive and keep membership happy. But when the year-end totals come out, it's not going to be pretty.”

Before starting any turf recovery operation, superintendents should closely evaluate their course, Landschoot says. “If turf loss has been substantial in a part of the rough, it may make sense to completely renovate the area and take advantage

of the opportunity to establish a new species or cultivar rather than overseed or rely on recovery of the surviving turf,” he says. “For small areas, maybe sod makes sense while overseeding is a good option on large areas.”

Turfgrass recovery is based on some combination of seed-water-fertilize. While there are infinite ways to implement a seed-water-fertilize recovery strategy, it boils down to the fundamentals. Plan now to have supplies on hand for the recovery process so you are ready when favorable weather returns. Some cultivars are expected to be in short supply, Koski says, so order seed now.

As for when to overseed, Landschoot recommends waiting until the current weather pattern changes and an extended period of cool nights are in the forecast.

“Seeding while it is hot means the seed must be watered several times a day to encourage germination. The combination of hot weather and frequent irrigation favors disease,” he says.

The risk with seeding while it is still hot is extensive loss of seedling turf. For golf courses watching their budgets, it makes sense to delay seeding until the weather is favorable.

Keep golf cart traffic off renovated or

overseeded turf areas. Landschoot says some superintendents have allowed foot traffic on newly renovated or overseeded turf without a problem. This helps keep the golfers happy without compromising the new turf stand.

Above all, communicate regularly with the golfers and club leaders. Let them know what is planned and how long the recovery will take. Be realistic estimating the recovery timeframe. The turfgrass has suffered greatly through the drought and heat and it is not realistic to expect a speedy recovery. Ideal fall and spring growing seasons will be needed for the turf to recover to provide high quality playing conditions for the golf season next year.

It was another harsh summer for superintendents across most of the land — “good for people, bad for grass,” Allen puts it.

Now that it's over, it's time to bounce back. ■

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