

# Hold

By Peter Blais

# Water

Some superintendents are irrigating less during overseeding — and getting good results

**W**ith irrigation water becoming increasingly expensive, superintendents are seeking ways to limit their water use, even during overseeding. Dale Miller has managed Sunbelt courses from California to North Carolina for the past 25 years, often working for management companies such as American Golf, ClubCorp and Evergreen Alliance while supervising as many as 60 courses at a time as a regional manager. He is currently director of agronomy of the four courses at PGA Village in Port St. Lucie, Fla., and has developed programs he estimates can save as much as 50 percent of the water traditionally used when overseeding greens and fairways.

One method that has worked well throughout the South begins in the sum-

mer with occasional light verticutting right through the warmest months to keep the ground open and receptive in anticipation of actual overseeding in early fall. A couple of weeks prior to overseeding, Miller suggests backing off to as little as 25 percent of normal watering in preparation for actual overseeding. He continues his application of plant growth regulators to the bermudagrass up to that time and performs a final light verticutting.

"Bermudagrass needs much less water in late summer and early fall as the physiology is shutting down the grass due to less light, lower sun angle and decreased intensity," Miller says. "The evapotranspiration (ET) rate that time of year is also much less than at other times."

When overseeding, Miller advises applying seed at rates roughly 10 percent higher than the recommended rates

to account for slow germination and increased traffic, since play and routine maintenance can continue throughout all but the one or two days seed is actually being spread. Golf cars are allowed on the course and regular mowing frequencies continue. The additional golfer and maintenance traffic helps push seed down into the soil, where it has the best chance to survive. The less downtime also means more revenue.

Miller, who took the position at PGA Village this summer, says the facility has traditionally closed its courses for 10 to 12 days for overseeding during some of the best possible weather. With his overseeding method, he anticipates closing the courses for no more than two days.

Once the seed is spread, Miller continues the lower watering levels for a week to 10 days. Less water means less seed floating in the thatch layer (where it has little chance to establish itself as a healthy plant) and more seed finding its way into the soil (where it can set down roots and begin drawing needed nutrients from the ground). Player traffic and mowing helps work the seed into the ground.

Once the first seeds begin germinating, the rest will soon follow, Miller says. "At that point you go back to slightly increased irrigation rates for that time of year to fully germinate the seed," he adds. "It takes just three to five days to fully germinate. You may have to hit potential hot spots with a little extra water. But overall you will be in good shape. Greens under this program should get hand-watering in addition to normal watering on mounds and collars, where germination is notoriously difficult to [begin]."

Since the seed has already absorbed some moisture prior to beginning the higher watering rates, Miller irrigates only at night throughout the overseeding process. This saves additional water compared to courses that use larger amounts and must irrigate during the day to put down sufficient liquid. Cutting heights are raised slightly and golf cars are restricted to cart paths for a couple of

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weeks while the new grass plants are still establishing themselves.

This overseeding program has worked very well for Miller at the various courses he has overseen. Any extra money spent on seed is more than made up by water savings, he says.

Most Southern courses could easily delay overseeding until Oct. 1 when the sun angle is lower, temperatures cooler and water requirements lower, Miller says. But they often overseed earlier to ensure perfect conditions when rounds begin to increase in October. Some facilities, especially in the Las Vegas area, begin overseeding as early as August to be in tournament condition for scheduled professional events, Miller notes.

"In the desert, they [use] so much water partly because they overseed earlier than they should," Miller says. Unfortunately, the hotter temperatures can also kill seedlings. That forces superin-

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tendents to occasionally buy more seed and repeat the overseeding process.

An average Florida course with 100 acres of turf uses about 50 million gallons of water a year, Miller estimates. In Texas, it's probably close to 100 million gallons. In the desert the number is 200 to 250 million gallons per year. "Significant chunks of that water are used during overseeding," Miller says.

### Other methods

Superintendents at other facilities also report seeking ways to reduce their water consumption during overseeding.

Paul Crawford, superintendent at

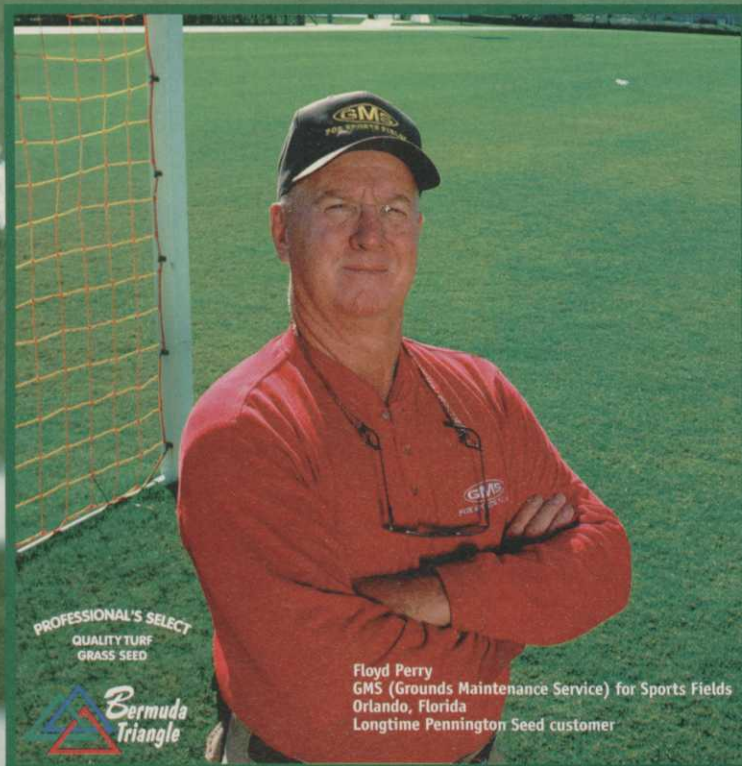
Palm Beach (Fla.) Country Club for the past 25 years, notes that part of his course is at sea level and is normally fairly wet. "Overseeding actually helps me dry it out because I have an actively growing plant as opposed to the [dormant] bermudagrass," he says.

The club's reverse-osmosis water-treatment facility has lowered Crawford's water costs from \$2.50 per 1,000 gallons for the city water he used to buy to just 27 cents per 1,000 gallons for the desalinated variety the treatment plant generates. Crawford will also install a new irrigation system next spring that will increase the number of sprinkler heads from 250 to 950. "With closer-spaced heads the water will not have to travel as far so you can isolate your watering more precisely," he says.

Crawford bases his irrigation regimen on years of observation and the use of moisture sensors. "There is nothing bet-

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ter than sticking a probe in the ground and checking the moisture content," he says. "I look at soil temperatures when determining when to overseed. As the temperatures drop, water consumption drops. If we get an early fall then we will be backing off on our water earlier."

Despite his enviable situation with a desalination plant and new irrigation system, Crawford keeps his perennial-ryegrass-overseeded fairways and bentgrass greens fairly thirsty.

"Irrigating less makes the plant go looking for water and develop deeper roots," he says. "If you give it too much water the roots will just stay right on top. Keeping it on the edge is sometimes scary, but is definitely the best method. Too much water is bad all over. It promotes disease and limits the root system."

Saving water during overseeding has not been a major issue for Mark Clark, certified superintendent of Troon Golf

& Country Club in Scottsdale, Ariz. The private members demand pristine conditions from the time most begin arriving in October. The reclaimed water Clark uses at Troon is also in plentiful supply.

Clark pushed the beginning of overseeding back from the third week to the fourth week of September, which may save some water because of the slightly cooler temperatures in the foothills outside Phoenix later in the month. Courses in the valley must wait until mid-October to overseed because of the hotter temperatures.

Clark estimates he uses 15 percent of his annual irrigation water supply over the two weeks following seed spreading, putting down 700,000 gallons per day on the new seedlings during the first week and 400,000 gallons daily during the second. "I don't know how we could save water getting seed up, unless we did not overseed some areas, like roughs, or not overseed at all," he says.

In fact, some Arizona courses have done just that, Clark says. A few Phoenix courses have taken turf out of play and replaced it with desert vegetation in the past few years to reduce water use. Others have elected not to overseed roughs. A few courses did not overseed at all last year, including those belonging to the city of Phoenix, because of watering restrictions.

"Some of those restrictions have been lifted because we had 15 inches of rain over the winter, which is very unusual for us," Clark says. "The bermudagrass usually tans out around Thanksgiving and starts greening up in late February, so you are only looking at eight or nine weeks where it is not real green. But you are putting \$200,000 into water, mowing, fertilizer, seed and all that to cover those nine weeks." ■

*Peter Blais is a freelance writer from Monmouth, Maine.*

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