



Less Is More

Frequent, light irrigation works best for fairways

By Anthony Pioppi, Contributing Editor

Their soil profiles are vastly different, but their irrigation practices are remarkably similar. The Ekwanok Club's 18 holes are nestled in the Green Mountain National Forest of central Vermont, which confronts Ted Maddocks with a varied soil profile: Half his course is sand-based, and the other half is much heavier.

In central Oregon, Mark Shepard spends his days maintaining a course built on a cornucopia of rock that comes within 3 inches of the surface in some spots, not exactly ideal growing conditions.

Jeff Johnson enjoys excellent soil and a good amount of annual rainfall at the Minikahda Club in Minneapolis.

The land on which Wellshire Golf Club in Denver is built might be just fine, but the arid conditions produce an average of 17 inches of rain a year, and water use can be heavily restricted.

What the four have in common, though, is their approach to irrigation of their fairways. Light and frequent is the way to go, they say.

"For me it's mostly about being firm and dry without sacrificing the turf," Johnson says.

A few years ago, Minikahda, a 1917 Donald Ross design, underwent a restoration overseen by architect Ron Prichard. Staying away from soft playing conditions is part of the club's goal to reinstate the Ross style.

"Let the ball roll into the bunkers, let it roll into the rough," Johnson says.

An irrigation system installed as part of the restoration allows Johnson to irrigate more efficiently while using less water. Tree removal also improved the quality of turf and allowed him to cut back on water in areas.

Although he has no water conservation issues, Johnson still tries to use as little as possible. He usually puts down about one-tenth of an inch, maxing out at one-quarter of an inch in rare instances.

"It's the proper thing to do," he says.

Maddocks has much the same idea, but his philosophy of light but frequent does not have to extend course wide on the Walter Travis design that dates to 1899.

On the part of Ekwanok that is perched on gravelly soil, he can irrigate up to five times a week during the heat of summer, and golf cars can safely travel the fairways less than 24 hours after a storm that drops massive amounts of rain. The heavy soil areas can go two years without seeing the heads come on.

The water supply is from wells on the property that do not produce in large volumes and that, at times, can force Maddocks' hand.

"If it needs it, I water it," he says, being careful not to put his most-needy areas at risk.

On his dry fairways, Maddocks will put down two-tenths of an inch five times a week, sometimes more depending on the evapotranspiration rate. His irrigation system was installed in 1997 in response to a severe drought two years before.

"On bright, sunny days with wind, I'm losing two-tenths of an inch," he says.

When he irrigates his wetter fairways, it is at a rate of about one-tenth of an inch.

At Wellshire Golf Club, owned by the city of Denver, Colo., superintendent Greg Blew's irrigation program is often out of his control. That part of Colorado usually receives between 15 inches and 17 inches of rain a year, but it's experiencing an extended drought. He too believes in light and frequent irrigation, but in 2001 the program became "not at all" because water authorities forbade golf courses from irrigating fairways with potable water.

Reclaimed water was not limited. Blew upped his height of cut from eleven-sixteenths to 1 inch and watched as the ground dried and cracked, and turf died on the 1926 Ross design. He did get lucky when a storm dumped enough rain to raise his own retention pond 12 inches.

Normally Blew irrigates his turf — bluegrass with *Poa* mixed in — nightly at a rate of about one-fifteenth of an inch. The

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Some superintendents like to irrigate for a firm and dry course.

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course is perched on a clay base. "The bluegrass is very resilient," he says.

Blew came to the course in 1993 just as the installation of the irrigation system was being completed.

There can be but a few superintendents in the United States who face the trials and tribulations of fairway irrigation that confronts Mark Shepherd at his course, Aspen Lakes Golf Club in Bend, Ore., known for its red bunker sand made from crushed volcanic rock.

Located just east of the Cascade Range, the course receives about 10 inches to 12 inches of rain a year.

"It's not what people expect when they hear Oregon," Shepherd said.

It is what his course is built on that causes the problems. At times, barely a little more than 3 inches below the turf is a base of volcanic rock, glacial boulders or slate, so close to the sur-

face that he cannot aerate more than 2 inches. When the course was built in 1996, a rock saw was used to cut trenches for irrigation and drainage pipe, quite a different site than Bandon Dunes, which was built and grown in on the sandy soils of the central Oregon Coast. Aspen Lakes is wall-to-wall bentgrass with Dominant used on the fairways.

The rock causes many problems, not the least of which is that on extremely hot days the rock can absorb heat, which it then radiates back at night, effectively drying the turf nearly 24 hours a day. When the rains do come, and the temperatures change, so do the conditions.

"We can go from really dry to really wet in a matter of days," Shepherd said. "It's quite a balancing act."

His irrigation program is reacting to the current state of affairs.

According to Shepherd, he waters nightly beginning in early June continuing through late September with additional hand-watering as needed. His shallow soils plus subsurface rock does not allow for much stored water. In the heat of the summer his water consumption reaches between 800,000 and 1 million gallons per night.

"We're really running right on the edge," Shepherd said.

He keeps from falling off, in part, by light and frequent irrigating. ■

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