

GCM

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Bang for your buck

Making financial sense of social
events at your golf course PAGE 72

Recess is
in session 36

Equipment
managers 52

Fraze mowing
recovery 88

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Nancy Hardwick



Costa Mesa Country Club, a public facility in Costa Mesa, Calif., has two 18-hole golf courses: the 6,500-yard Los Lagos course and the 5,600-yard Mesa Linda course. Photos courtesy of Underhill International

(irrigation)

A change for the better

Southern California courses are finding that improved irrigation distribution uniformity can play a vital role in continued success in the midst of historic drought.

Golf course superintendent Jim Fetterly had double trouble.

As superintendent at both the popular Costa Mesa (Calif.) Country Club and at Strawberry Farms Golf Club in nearby Irvine, he had double the donuts, twice the dry spots and twin teams of poorly performing sprinklers.

A graduate of Cornell University, Fetterly has worked as a superintendent for 35 years and has multi-generational golf bloodlines. His dad worked at the same New York golf club for 50 years, holding every job except head professional. Two uncles were golf pros, and his grandfather was also a superintendent.

Even with this pedigree, how does he manage to, well, manage two courses?

“Hire and train great staff,” the 31-year GCSAA member says. “Our crewmen don’t just complete assignments; they understand why we do things a certain way. With this knowledge, they can deal with nearly any problem on the course.”

Strawberry Farms forever

Because he has spent most of his life on the links, Fetterly is well acquainted with the challenges inherent in golf course maintenance, and both courses have definitely put him to the test.

Strawberry Farms, a high-end, daily-fee 18-hole club, is situated amid picturesque backcountry, with holes tucked into canyons and ravines. The 6,700-yard course was designed by Jim Lipe of Nicklaus Design and was developed by Doug DeCinces, a former third baseman for the Anaheim Angels.

A 35-acre reservoir adjoins the course and has been a reliable water source, but water quality can be extremely poor, especially during years of limited rainfall.

"It's all about the weather," Fetterly says. "In a wet year, we have good water quality. In a dry year, or at the end of summer, it's marginal, with all sorts of residue coming through the lines — sediment, debris, shells, seaweed. And we can expect serious nozzle problems and terrible distribution uniformity (DU)."

Strawberry Farms was outfitted with Rain Bird 700s, and, after years of use, the OEM plastic nozzles had become worn and inefficient.

"Unclogging nozzles was a full-time summer job. Our DU was inconsistent — dry spots and muddy holes proved that. So about five years ago, we decided to find a long-term fix, but first we ran site tests," Fetterly says.

He switched out a couple of holes to Profile solid metal nozzles from Underhill International.

"We were skeptical, but actually saw changes very quickly," he says. "These nozzles are made with solid brass and have stainless steel outlets. Nothing clogs them. The DU improved right away and eliminated



Replacing nozzles at both Costa Mesa (Calif.) CC and Strawberry Farms GC in Irvine, Calif., has improved distribution uniformity and saved money, according to superintendent Jim Fetterly.

The conversion was a triple win: no more clogging, improved DU and a little extra cash in the budget.



dry spots and dirt patches. We could even stop overwatering."

Ultimately, Fetterly switched out more than 700 nozzles in one year, a move that yielded even more good news. Strawberry Farms qualified for a nozzle rebate from the local water district in Orange County. The conversion was a triple win: no more clogging, improved DU and a little extra cash in the budget.

Familiar challenges

Fetterly brought what he had learned at Strawberry Farms to the 36-hole Costa Mesa Country Club, where he has worked for 18 years.

Costa Mesa has two courses: Los Lagos, with 6,500 yards of gently rolling fairways and generous greens, and Mesa Linda, with 5,600 yards of doglegs and sloping turf. The courses were originally designed by Billy Bell and opened in 1968. Mesa Linda was later renovated in the 1980s by Ronald Fream.

Toro 730 and 760 heads are used on both courses, and irrigation is supplied by dual mainlines from five lakes. Three lakes provide fresh water for greens, and two recycled-water lakes irrigate the fairways, tees and roughs.

"The entire site is fairly level, so you'd think there would be consistent irrigation coverage. Not so," Fetterly says. "Hole 18 (Los Lagos), for example, had a nice circle of green within 5 feet of the head and beyond 15 feet, but the mid-range zone was going to dirt. Hole 14 (Los Lagos) has rocky subsoil, which we were overwatering to compensate for the dry areas.

"The problem is you don't know how bad the distribution uniformity is until everything starts going downhill."

A perfect fit

Brian Vinchesi, nationally known irrigation educator and president of Irrigation Consulting Inc. of Pepperell, Mass., and Huntersville, N.C., became acquainted with Profile nozzles through a study conducted by the Center for Irrigation Technology, and through meetings with superintendents who had installed the solid metal nozzles.

After surveying irrigation systems at hundreds of courses in the U.S., Vinchesi concluded that many sprinklers deliver poor distribution uniformity, which can only be minimally improved with maintenance. The options for superintendents had been limited up until now. Typically, courses either replaced the internal mechanisms or the entire sprinkler, or they resorted to daily hand watering of dry patches.

"What sets these nozzles apart is they are essentially 'custom-made' for the industry's most popular golf heads," Vinchesi says.

Making the switch

Based on his success at Strawberry Farms, Fetterly persuaded Costa Mesa to invest in a major switch-out of the aging OEM nozzles. Since the beginning of this year, he has changed more than 2,750 heads at the 36-hole property.

"We saw a difference in DU within days, because the water was applied evenly. Donuts and dry patches disappeared. Muddy areas, where we were overwatering, cleared up. And we could actually cut back on scheduling."

Even with California's exceptionally dry winter, the Costa Mesa tees and greens were looking better than ever with the shorter run times. Fetterly had typically run the Toro heads for five to 10 minutes at night, then another two to five minutes in the morning. After switching nozzles, he cut back his watering intervals 20 percent and still maintained healthy turf.

"The savings are real, both in water use and energy costs since we could trim pump time too."

Vinchesi agrees. "In this current economic climate, switching nozzles has become a practical and relatively inexpensive solution to improving distribution uniformity without the expense of replacing a golf sprinkler or its internal mechanism," he says.



Cost cutting

Along with the resource savings, Costa Mesa CC also took advantage of rebates from the local water district triggered by the nozzle switch. The rebates will essentially pay for the cost of the nozzles, an incentive that has spurred many California courses to make similar changes.

"Once we solved our DU problems and improved the overall health of the turf, we could concentrate on better cultivation techniques and the stewardship of our resources and environment," Fetterly says.

"Additionally, the stainless steel nozzles are expected to last essentially the life of the sprinkler, unlike plastic nozzles, which only function for a few years when exposed to extremely poor water quality."

Like all courses throughout the state, Costa Mesa is facing significant cutbacks in water use this year, and Fetterly will be watering the fairways and roughs less. He is confident, however, that his tees and greens will continue to look green and challenging.

"Superintendents everywhere are seeking practical solutions to help us conserve resources. By improving DU, we found we could maintain healthy green turf, even while using less water," Fetterly says. "That's better for our bottom line, and definitely better for the environment."



Top: More than 2,750 nozzles were replaced at the 36-hole Costa Mesa CC.

Above: Costa Mesa CC superintendent Jim Fetterly has worked at the facility for 18 years.

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