

Calif. superintendent breaks away from 'rescue chemistry'

'Feed the soil' are the words they live by at Lake Wildwood Country Club.

■ The maintenance crew at Lake Wildwood Country Club, in Penn Valley, Calif., has successfully incorporated a nutritional program into the daily turf care program.

At the center of the program is the belief that soil nutrition is the most essential factor to disease control.

The program at Wildwood is currently led by Mark H. Bunte, who earlier in his green industry career earned a degree in ornamental horticulture from Cal Poly State University/San Luis Obispo, and who also has experience in landscape construction.

But Bunte is quick to credit former superintendent, Dave Wilber—now with Brookside Labs—with laying the groundwork three years ago.

According to Bunte, Wilber believed—based on supporting research—that microbial activity in the soil was the key to healthy, disease resistant turf.

"Before," recalls Bunte, "all applications were synthetic, and fungicides were used in antici-

tion of disease problems."

Three years ago, Wildwood's greens and fairways suffered from poor heat and wear tolerance, shallow rooting, poor water infiltration and *Poa annua* encroachment. The belief was that the heavy use of fungicides on the greens were having a negative effect on microbial populations.

Competent soils analysis discovered that there were severe nutrient imbalances throughout the course.

A custom blend of 5-26-25 was needed for tees and fairways. Greens were treated with Scotts' starter fertilizer and Bests' 0-0-50.

Calcium levels were, as Bunte recalls, at a "critically low" level.

"We hired one of those lime trucks that spreads material in the rice fields



Lake Wildwood superintendent, Mark Bunte, uses a refractometer to measure sugar levels in leaf tissue.

to do the job," says Bunte. The truck spread 100 tons of sugar beet lime
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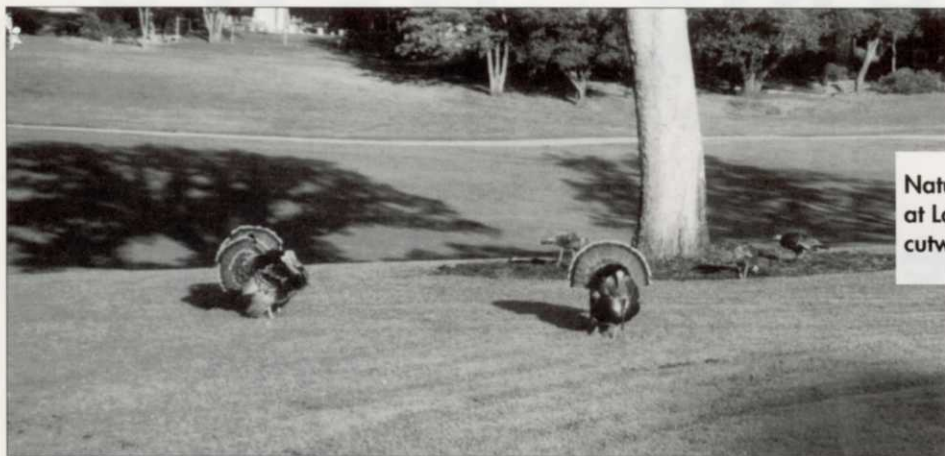
"We decided on a fertilizer based on what was needed, not on what was available."

Sugar beet lime is applied to fairways and roughs at a rate of one-and-a-half tons per acre.



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in about two-and-a-half-hours, at one-and-a-half tons per acre."

Bunte says the lime costs about \$3,500, and for three years they've made the applications to bring calcium content to the desired level.

Phosphorus was also found to be in short supply.

"The lab recommended 238 pounds per acre," says Bunte. "We had been using less than 80 pounds.

Irrigation is more frequent, but is operated manually. Now, 1650 gallons per minute are dispersed, down from 1800 gallons, and the system was fine-tuned for equal pressure from all heads.

Wetting agents are used for certain troublesome wet/dry areas. Greens are mowed six days each week. On the seventh day, dew is removed in the morning to "interrupt the fungus cycle," says Bunte. Drain tiles were installed in low-lying areas of the fairways and roughs to reduce the potential for disease there.

Impressive results. Bunte hasn't made one major fungicide application in 1993. A small dollar spot infection crept



Greens assistant Adam Richardson applies oyster shell lime to greens, collars and tees.

onto one green, and was corrected with Scott's FFII.

"We treated the worst part of the green and left the other part alone to see what would happen. The untreated turf grew out of the situation and looked fine."

Bunte believes potassium or other fertility applications help the turf "grow out" of the ailment. "Nature does the talking, and we listen," he says.

Walk-behind greens mowers have replaced riding units at Lake Wildwood. They're lighter, and they bring the operator closer to the green.

Walk-behind greensmowers have replaced riding units at Lake Wildwood, and turf density has improved "tremendously."

Fairways and tees are overseeded with endophytic ryegrass, and mowed with sharp reels. Appearance and playability of the golf course has improved.

Mowing heights are set at $\frac{19}{100}$ of an inch, or until the complaints are too much to bear.

Greens are verticut every 14 days during the growing season at $\frac{19}{100}$ of an inch and topdressed in lightly.

To maintain organic levels and consistency, turf cores are crushed and returned to the green.

Eye on the public eye. In a nod to public perception of a spray tank and suited applicators, the crews now use granular materials.

"In the years past the

spray rig used to go out every 14 to 21 days with fungicides for preventive controls," says Bunte. "In an effort for better public relations, we post information at the pro shop on those days we use the spray rig and tell the members what is in the tank. The spray rig is now used for humates, micronutrients and some foliar fertilization."

The goal of all this is to escape what



Assistant superintendent Stephen Leas pours micronutrients into a fertigation injector drum.

Photos courtesy Mark Bunte

Bunte describes as "rescue chemistry," and he has his fingers crossed for the remainder of 1993.

"I am fortunate to have gone through this wet winter and spring without fungicides," says Bunte. "The improvement in microbial activity has increased the stress buffering capabilities of my greens and the severity of outbreak is dramatically reduced."