Golf course 'living lab' Cal State Poly's aim

By DOUG SAUNDERS

POMONA, Calif. — Dealing with society's trash is an issue that draws little attention from the public until a landfill needs to be created or closed down. After operating a 200-acre landfill on campus property since 1957 in conjunction with the Los Angeles County Sanitation Districts, California State Polytechnic University, here hopes to close the landfill and build an 18-hole golf course that will serve as a living laboratory.

The landfill has served two purposes over the last four decades. It has been a repository for the tons of refuse from the growing LA metropolis, and has served as an outdoor lab for waste management, environmental sciences, engineering, and agriculture.

"The landfill has been very beneficial to the university from not only an economic standpoint, but also as an educational tool," said Ed Barnes, executive director of the Land Lab and Asset Development for Cal Poly Pomona.

At some point landfills do reach capacity and the next question was how to best close this one down. Strict EPA guidelines specify the closure procedures for landfills. The university has decided that, in conjunction with closure and monitoring regulations, creating a golf course can continue to provide economic and educational benefits into the future.

"Our desire," Barnes said, "is to build and 18-hole course that will generate income through greens fees, provide a recreational outlet for students, be of value to our athletic program, and give more opportunities for internships for our colleges of hotel and restaurant management, turfgrass management, landscape architecture, and biosciences."

Cal Poly recently selected Golf Dimensions, a golf course management firm based in Irvine, to help the university through the project's planning and construction phases. Golf Dimensions recently completed the

NEW ENGLAND TURF CONFERENCE

Wake up to soil acidity tests, Hummel tells superintendents

By MARK LESLIE

PROVIDENCE, R.I. — Decrying the fact that many of them have no idea how acidic their soil is, Dr. Norm Hummel called on turfgrass managers to establish soil-testing programs to define the best fertilizer regimens for their properties.

Speaking at the New England Regional Turfgrass Conference here on March 4, the former Cornell University professor said: "As basic as it is, it's amazing to me how many people don't have an idea of what the pH of their golf course or athletic field is at."

A soil test can address soil acidity and liming requirements, pH reduction, soil phosphorus and potassium, secondary nutrients like calcium and magnesium, and soluble salts for those in coastal areas, said Hummel, who now operates Hummel & Co. in Trumansburg, N.Y.

Calling pH "one of the most basic soil fertility aspects," Hummel said the optimum reading for most cool-season grasses is in a range of 6 to 7.

"One of the reasons is that optimum nutrient availability is found within that slightly acidic range," he said. "When you get into higher pHs, many of the micronutrients are there but tied up in unavailable forms. When you get much below that, nutrients

Sunlight assessment, other tools taking turf care into 21st century

By MARK LESLIE

PROVIDENCE, R.I. — Sunlight assessment and digital imaging — two new technologies that are pulling golf superintendents toward the cutting edge of turf management — two new technologies that are pulling golf superintendents toward the cutting edge of turf management.

"Frankly, most of the people here have the equipment and capabilities to operate this technology," Dave Oatis, director of the Northeast Region, told the New England Regional Turfgrass Conference here.

Oatis hailed the sunlight-assessment technology developed by Arbor Com Inc. of Toronto area. Company owner Scott Robinson, an arborist from Toronto, developed this tool "and it is mind boggling what they can do with it," Oatis said.

Oatis cited the usefulness of digital imaging as "limited only by your imagination."

"On difficult sites with difficult memberships, and for particularly important trees, you can use [sunlight assessment] to document and quantify how many and which trees need to be removed" to save shaded turfgrass, Oatis said. "You need eight hours of sunlight for healthy turf."
New technology
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"So, when we ask which trees should be removed, the answer is different for different times of the year," he said. "If you do a sunlight assessment on just one day of the year, you will make a serious mistake, cutting the wrong trees entirely, or not cutting enough trees — usually the latter."

Using Arbor Com’s technology solves the quandary, Oatis said. Setting up a sunlight location device on the green and connecting it to a laptop computer, Arbor Com can provide the exact location of the sun at any hour on any day of the year. "You map the green and trees and run a shade-assessment program which shows how much light different areas of the green get," he said. "It can rate which individual trees have the biggest impact on shade. The program also calculates the amount of light you will gain after doing the tree work. It identifies trees, or even branches which are causing problems and quantifies how much you’ll gain by doing the work."

He said Thornhill (Ontario) Country Club superintendent Keith Bartlett, who has used the program very successfully, claimed this technology "saves an excellent technology that will be worth a dime," Oatis said. "It can rate which individual trees have the biggest impact on shade. The program also calculates the amount of light you will gain after doing the tree work. It identifies trees, or even branches which are causing problems and quantifies how much you’ll gain by doing the work."

After completing this program, superintendents could use the digital imaging program to sell membership on a renovation project. This technology creates a visual representation of proposed work. The computer operator can change digitized images to show whatever changes they propose. "There are as many possibilities as you can think of for this technology," Oatis said. "You can add or remove trees or features, mounding, bunkering, landscaping around the clubhouse. Your only limit is your imagination."

Using this technology requires a "pretty fast computer with mid-sized memory, a simple software program like MG1 Photo Survey; and you have to invest using:

• irrigation coverage analysis
• seed purity testing
• pest forecasting devices,
which will become more valuable as you get more forecasting on your golf courses... The cost is not prohibitive and if it helps you eliminate one pesticide application a year it will pay for itself very quickly."

Irrigation coverage analysis is important because "if you don’t have sprinkler heads that will apply water evenly, the best control system in the world is not worth a dime," Oatis said.

"Saying that some of the sprinklers on the market today do not apply water accurately, he encouraged superintendents to use the SPACE (Sprinkler Profile and Coverage Evaluation) software program developed by the University of Southern California. SPACE previews how a specific head, nozzle and spacing combination will work, both through a picture and numerically. "You can use it in a couple of ways," Oatis said. "First, it virtually guarantees that the system you’re putting in will provide good coverage. And spending a couple hundred dollars to ensure that the $500,000 irrigation system will work, is cheap insurance."

"Second, if you have an existing system, it is a great tool for troubleshooting. In the past, when you saw a coverage problem the only way to treat a dry spot was hand-syringing, or to go through a period of trial and error with different heads, nozzles or pressures to correct the problem. With this program, you can do it very effectively in the laboratory."

Testing seed purity, Oatis said, is another cost-saving investment. Spending $200 for a laboratory’s test seed in 50-gram samples, as opposed to 2-1/2-gram samples, can prevent many problems with weeds, he said. He cited a study in which 90 seed samples were tested at the 2-1/2-gram rate and 94 percent were shown as clean. Yet a 50-gram sample showed that 45 percent of the samples contained poa annua and poa trivialis.

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Both areas exhibit the presence of Fairy Ring. The area on the right received 2 treatments of AQUEDUCT at 8 oz./1000 sq. ft. Treatments were applied one week apart.

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