U-Georgia to create a 21-hole, working lab

By MARK LESLIE

GRiffin, Ga. — The nation's first research-intensive golf course is going out to bid.

The University of Georgia's 21-hole facility, located on land at the school's Experiment Station here, will be a living laboratory on which scientists will perform hands-on, innovative research into all aspects of maintenance from growing turfgrasses to pesticide fate.

The University of Georgia in April put out a request for proposals to private companies to build the facility on 165 acres the school owns. The university will receive some of the profits from the course operation to fund the research.

"We're excited about making this truly an all-research and education golf course," said Dr. Ed Kanemasu, research leader for University of Georgia's Crop and Soil Science Department. Kanemasu, who has shepherded the plan through university and state protocol for two years, said: "We will be testing different grasses and work on irrigation, water use, maintenance practices as underregulated ever couple of weeks. We can't deny it anymore. A conference yesterday in Wilmington, N.C., heard recommendations on how to make golf courses more environmentally friendly. Pesticides on golf courses are polluting fishing waters in some places. More than 50 different chemicals are used on golf courses to kill insects and weeds and rodents, and regulations of the use of those chemicals is almost nonexistent. The USGA is presently completing its own three-year study, but the bottom line seems to be that some course designers and some who maintain them will not behave unless there are new laws to require it.

Golf industry differs on trade policies

By PETER BLAIR

Satisfied with their access to Japanese markets, golf industry suppliers are generally not among the American businesses supporting President Clinton's threats of higher tariffs if the Japanese refuse to open their doors to freer trade.

"We don't have a problem selling product in Japan," said Dennis Hays, director of the Oregon Seed Trade Association. "Some American seed producers are even Japanese owned. It's a good market for us." In a formal late-March news conference, Clinton said he believed the Japanese unilaterally not among the American businesses would resist extending their open their doors to freer trade. In a formal late-March news conference, Clinton said he believed the Japanese unilaterally not among the American businesses would resist extending their open their doors to freer trade. Clinton said he believed the Japanese unilaterally not among the American businesses would resist extending their open their doors to freer trade.

Greenskeepers have denied that their pesticides are killing birds, but they can't deny it anymore. According to a conference yesterday in Wilmington, N.C., heard recommendations on how to make golf courses more environmentally friendly. Pesticides on golf courses are polluting fishing waters in some places. More than 50 different chemicals are used on golf courses to kill insects and weeds and rodents, and regulations of the use of those chemicals is almost nonexistent. The USGA is presently completing its own three-year study, but the bottom line seems to be that some course designers and some who maintain them will not behave unless there are new laws to require it.
Lava perplexes, challenges

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hose wide open on the stuff and not be able to form a puddle.

One glimpse of a volcanic lava site by a golf course builder or designer can make knees shake.

“It’s almost like a moonscape look,” said architect Rodney Wright of the Honolulu-based Nelson & Wright design team.

“It looks like a giant plow went through and plowed the earth 10 feet deep. Imagine a 30-foot-high tractor or plow going through and that’s what it looks like,” said architect Jay Morrish of Flower Mound, Texas.

“It takes a lot of money to work in lava rock,” said Monty Montgomery of Greenscapes, the construction wing of Robert Trent Jones II International, who has built three or four courses on lava sites. “It’s very abusive on the machines. Rocks will eat your equipment up. You’re bouncing off rocks, you’re going up and over them. The things will flip up into your rollers and get in your tracks. It involves a lot of maintenance.”

Montgomery, whose lava work includes Wailea and Makena golf courses, said the presence of lava on site can push up the $3.5 million to $6 million average construction cost of a golf course an additional $8 million to $10 million — “easy.”

And Morrish added another $10 million to $20 million price tag on the expense, “depending on how much [earth] you’re going to move.”

The time?

Add a year to 15 months, Montgomery said. “In Hawaii you could add two to three months to a job just for blasting [with dynamite],” he added.

Regardless of the drawbacks, the unavailability of more “user-friendly” land, like the abundant sugar-cane property, has necessitated that developers build on these properties.

And when the course is complete, the black lava bordering lush green fairways and greens can be a stunning sight.

“There are a lot of unique and dramatic natural features to deal with — lava outcroppings and pressure ridges that run through the landscape,” said Wright, who with partner Robin Nelson designed 18 holes at Mauna Lani Resort.

Builders say that they are on lava sites they only hope for more “a’a” lava and little or no “pahoehoe.”

Wright described a’a as a brown, very brittle and coarse material that is easier to “crunch down and push around with a dozer.”

The smoother, more fluid-looking pahoehoe makes for long days, sticks of dynamite and frustration. Builders call it much shorter, uglier names than its Hawaiian nomenclature.

“Put a new dozer operator out there who’s never worked in it before and it will drive him crazy,” Montgomery said.

“How to build in it

“The main thing about lava rock construction is that there’s usually not much dirt around,” Montgomery said. “You’re cutting and blasting your rollers and pulling out lava rocks and you have to use this material to base your mounds and tee complexes and some of your greens.

“You have to bring the rock out

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'Use the unnaturalness of lava to your advantage' — Wright

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and it comes out in chunks. You grade it up with a bulldozer into the form you’re trying to get it as close as you can. Then you cover it with something. What we use, especially in Maui, is cinder from cinder cones.

Big dozers — D-8s, D-9s And D-10s — are needed for this work. A huge “ripper,” usually a shank on a hydraulic lift, is attached to the back of the dozer.

“You lower [the ripper] into the ground and rip the lava out in chunks. But the blue lava [pahoehoe] won’t budge and you reach a stage that you can’t avoid it. You have to blast it out. We even have to blast out our irrigation trenches,” Montgomery said.

“You knock down everything and it ends up in six-inch to one-foot diameter stuff,” said Morris, who designed the course at Waikoloa Beach Resort in Hawaii.

“It’s interesting trying to grade a green with six-inch contours with a rock that’s a foot thick.”

The irrigation system comes into play as one of the more expensive aspects of construction because it has to be cut into the lava.

“Since the lava is so abrasive, all the pipelines have to be bedded with topsoil, a finer gravel, or good, select soil,” Wright said.

When the lava is crushed, blasted and more or less roughed in the way you want it, the whole course is coated with cinder cones that come out of the volcanic hills,” Morris said.

This pea gravel to golf ball-sized material serves as sort of a deep choker layer, above which the builder adds six to eight inches of imported topsoil.

“The good thing about this — and about the only good thing — is that if you leave a little bit of subsurface exposed, you don’t have any drainage problems,” Morris said. “You could stand there with a fire hose and not be able to make a puddle.”

While the turfgrass is getting established, water leaches through it quickly. But Montgomery added: “Once you’ve established root growth, it will start to hold all that moisture. In four months you could feasibly play the course.”

Montgomery said that in establishing the turf, amendments high in nutrients are used “to pop the grass quicker.”

He also suggested top dressing the fairways with sand.

“Top dress two or three times and it [top dressing] will work into the cinders and hold the moisture,” he said.

Wright said any time a lake is built in lava, a liner and edging have to be installed because of the drainage.

And, he added (the architect inside him coming out): “The lava is so brittle and fragile that you have to be careful. Once you walk a dozer across it, it will track and it is impossible to repair. If you find a natural outcrop of pahoehoe that you want to incorporate into the course or build a tee around, you have to be very careful not to get your equipment on it. It will scar and be impossible to repair.

“There are some very dramatic land forms. Once you disturb them, you can’t restore them.”

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