

# *From Synthetic Grass to a Purr—Wick Tee*

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**J**ohn Brodie, of the San Francisco '49ers, said artificial turf gets too hot. Brig Owens, of the Washington Redskins, said it causes too many injuries. In fact, leaders of the National Football League Players Association said most players do not like it at all and many of the golfers at Fountainhead Country Club did not care for the synthetic turf on our Number 1 Tee.

Five years ago we decided to make a change on Number 1 Tee. We not only had a problem keeping a good stand of turf growing on the surface, but the banks were sloped so sharply it was impossible to trim them with riding equipment and very difficult to trim

them with hand mowers. At this time, synthetic grass tees were becoming popular. After weighing all the advantages and disadvantages of synthetic tees and being aware of the difficulties trying to maintain grass on our first tee, we decided to try a synthetic grass tee. We followed the instructions for the installation of a 15- by 20-foot tee, constructing a wooden box frame, underlaid with crushed stone, fiber pad with sand impregnated into the pad, then the synthetic grass carpet tightly stretched and nailed to the frame.

The synthetic surface held up quite well, but after a period of time the area adjacent to the tee was completely bare of grass. A number

*Old No. 1 tee with synthetic turf.*



*Concrete retaining wall  
being faced off with rail-  
road ties.*



*Sand being graded over  
polyethylene liner and  
drainage pipe.*



*Finished product waiting  
for use this Spring. Quite  
an improvement over the  
synthetic turf.*



of complaints were heard about the tee; "too difficult to get my tee into the surface"; "my feet slip when I make a good swing"; and "it just looks unnatural—like having artificial flowers." The consensus of the membership was unfavorable toward the synthetic turf tee.

The Green Committee knew it had to go, but any new tee would have to be built on a sloping area, making it difficult to construct without having steep, sloping banks. We then decided to build a retaining wall faced with limestone to match the stone on the clubhouse. After some investigation, however, we found that stone facing was too costly. Finally we decided to face the wall with used railroad ties.

Last summer (1973), after much procrastination, we mentioned to Holman Griffin, Mid-Atlantic Director for the USGA Green Section, that we intended to construct a new Number 1 Tee and retaining wall. Holman suggested we consider trying a tee with a PURR-WICK rootzone system. We wrote to Dr. William Daniel, the originator of the PURR-WICK system, at Purdue University and received construction information. In the interim, I spoke to Doctors J.C. Harper and D. Waddington at Penn State and got their ideas.

After much consultation with Dr. Daniel, Green Committee Chairman Bob Nichols designed the new tee and convinced the Board of Governors we should try this method of construction. A drawing was prepared and an explanation of the PURR-WICK system was placed in the clubhouse for all members to see.

Last September, 1973, the synthetic grass tee was removed, the area regraded, a concrete footing and retaining wall were constructed and faced off with used railroad ties. The first phase of the construction was completed by a contractor. Then, with golf course maintenance personnel, we installed two layers of 6 mill polyethylene sixteen inches below the final grade. The edges of the polyethylene sheeting were overlapped by at least three feet and taped, forming a water-tight seal. The vertical edge of the sheeting extended to the top of the retaining wall, forming a 16-inch reservoir which will retain water. Horizontal collecting drains were installed, using 2-inch corrugated plastic pipe with narrow perforated openings designed especially for use with sand.

The drain lines were installed in such a way that water would not have to travel more than 10 feet in any direction to reach the perforated drainage pipe. An adjustable control outlet to conserve and drain water was installed into the upper and lower levels of the tee. With these outlets, water can be drained or stored in the tee by regulating the outlet valves. Irrigation lines and a pop-up rotary sprinkler was installed

in both levels.

A member of our green committee donated 160 tons of Pennsylvania Glass Sand Company's Berkeley size 2 Q-ROK sand. Another member donated his small bulldozer and personally graded the sand over the surface, being careful to avoid shifting the drainage pipes. One-half inch of peat moss was spread onto the surface and 50 pounds of sewage sludge and 10 pounds of 30-3-10 fertilizer per 1,000 square feet were mixed into the top two inches of the surface. The surface was then compacted using a mechanical tamper, and it was hand raked. We purchased a blend of Fylking, Pennstar and Merion bluegrass sod and instructed the sod grower to cut it as thin as possible. The sod was hand tamped as it was laid and top-dressed with 2 Q-ROK sand. Within 8 days after laying the sod, we aerated the surface, overseeded with a mixture of improved perennial ryegrasses and top-dressed again with sand. The surface was kept moist by irrigation or precipitation and the grass root system started growing into the sand.

Before any landscaping, the new tee looked like a Revolutionary War fort. In fact, one member's comment was, "All it needs now is some cannons sticking through the walls." Our landscaping was completed with the assistance of Dr. Craig Oliver, of Penn State, and another green committee member in the nursery business. This final landscaping touch was all that was needed to make it a beautiful new tee.

A pile of topsoil from the initial grading had been stored to the front left of the tee. Instead of hauling the topsoil away, we graded it into another small tee and sodded it with leftover sod. This tee may be used for comparative purposes, to give our PURR-WICK tee a rest, and as a winter tee.

The upper level of the tee measures 1,800 square feet, the lower level 1,300 square feet, and the extra tee a little less than 1,000 square feet.

The cost of constructing these tees was \$6,100 for the work completed by the contractor, initial grading, footing, retaining wall and railroad tie facing; and another \$2,800 for the balance of the materials, landscaping and labor.

Club members are quite eager to play from the new tee, so much so that some of the lady golfers have indicated they would be willing to move back 75 yards from their present tee to play it.

Everyone is quite proud of the final result and we certainly hope it will provide us with an answer to the difficult problem of growing turf on a restricted area that takes tremendous abuse. This summer will be its first test.