



**Turf Management Improves
As Golf Fever Sweeps
Hawaii and the Far East**

By O. J. NOER

Golf has been popular in the Hawaiian Islands for a long time. The most recent courses there are the Royal Kaanapali on Maui, and the just completed Mauna Kea course on the big island of Hawaii. Both are Robert Trent Jones creations. Other courses are in prospect.

The better courses in Honolulu have bent greens and Bermuda on the tees and fairways. Tees are being converted to Tifgreen(328). Regulations make it difficult to introduce new grasses. Plant introductions are quarantined for a year. Care at the Experiment Station is costly. It is said to have cost the club that introduced Tifgreen about \$2500.

In Japan the interest in golf is fantastic. Many new courses have been built since the end of the war. More are needed to accommodate the many new players. Because of intensive land usage, golf space is limited.

Golf interest is on the increase in the Philippine Islands. A new course has just been completed on the outskirts of Manila. Another is in the course of construction at Tarlac, and other are contemplated.

My December trip, to Hawaii, Japan, the Philippines and Hong Kong was of three weeks duration. It was made with Robert Trent Jones. The main purpose was to be at Royal Kaanapali during the Canada Cup matches, then to the big island of Hawaii where the Palmer, Nick-

Left) Gary Player hits tee shot on No. 3 at Mauna Kea in Hawaii in Big Three match. (Below) So much business was anticipated at downtown Tokyo driving range that it was built with a second deck.



Architect who has something against golfers may have designed this par 3 hole at Kasumigaseki in Tokyo.

laus and Player matches, for television showing in March, were to be played on the Mauna Kea course, just completed by Jones for Laurence Rockefeller. The Philippine visit was to check the progress of the new Jones course built at Tarlac, mid-way between Manila and Baguio.

Tokyo and Hong Kong were interim stops where we became acquainted with soil and turf conditions on courses there.

Bermuda Kept in Check

Turf at the Royal Kaanapali course on Maui island consists of Seaside on the greens, down to the base of the slopes, and out onto the apron in front. This was done to hold the Bermuda in check. Even so, sprigs are carried into the greens by equipment and by players. The clubs in Honolulu make weekly inspections, and hand weed any Bermuda that encroaches on the bent turf. The fairways and tees at Kaanapali are Tifgreen(328).

Originally the tees were planted with a Uganda strain of Bermudagrass. It proved unsatisfactory and is being replaced with Tifgreen. The Canada cup contestants played on that part of the tees. In October a truck load of grass was removed from each tee. The thatch was that bad. It was done by heavy cross verticutting, followed by cross close mowing. Surfaces were brown but fertilization brought the turf back. From then on, a 30-inch power mower was used, with a catcher, to cut the tees. It was set at 5/16 of an inch. Surfaces were perfect for play during the

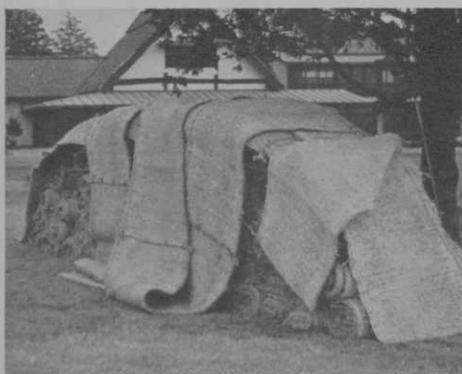




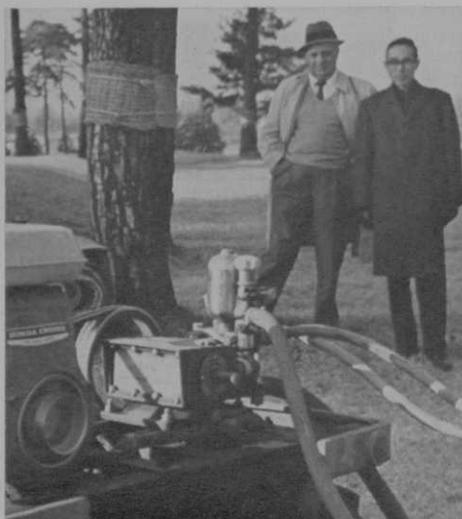
O. J. Noer had photo taken with girl caddie and Mr. Shiokawa, supt. at Kasumigaseki.



Heavy duty plastic covers a green at Kasumigaseki that is kept out of play during winter months.



Rice straw mats are used to cover turf at Koganei in Japan to protect it from frost damage.



Architect Robert Trent Jones and Japanese club manager are shown examining a spray rig.

matches. Divots are less of a problem with close mowing that produces a tight turf.

Iron Chlorosis A Problem

Iron chlorosis is a problem at Kaanapali (and at Mauna Kea) because the soil is alkaline and much of it contains calcium carbonate, as such. To prevent loss of grass, ferrous sulfate has been used regularly on the tees, fairways and greens.

Dollarspot was rampant on the greens in the summer. Corrosive-sublimate mixtures were not available, but Kromad, along with a change in nitrogen feeding, solved the problem. Sod webworms and cut worms required regular treatments with appropriate insecticides. It was necessary to curb Rhodesgrass scale. Overall treatments were made on the tees, and spot treatments on infested areas in the fairways.

Crushed Volcanic Rock Soil

The spectacular Mauna Kea course is located along the Pacific ocean on Parker ranch property. In most fairways, soil was manufactured by crushing volcanic rock. The tees and greens are Tifgreen(328). Fairways are seeded to Arizona hulled Bermuda grass seed. The greens and tees were sprig planted from a nursery established on the property. Some were developed in less than two months.

The soils at Mauna Kea are alkaline. A fertilizer mixture, (16-8-8) containing 2 units of sulfur and 150 pounds of ferrous
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Improved Turf Management

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sulfate per ton, produced great results. It was supplemented with ammonium sulfate.

The management program calls for close mowing of the fairways at $\frac{1}{2}$ inch, probably three times a week in the active growing season. Tees are mowed at 5/16, or a trifle higher, with a grass catcher on the mower. All greens mowers are equipped with combs because of the scalping roller out front.

Zoysia in Japan

Zoysia is the popular turf on golf courses in Japan. Fairways are of the matrella type, roughs are japonica and the summer greens are tenefolia. There are two greens for each hole, one for summer and one for winter. The course is seeded to cool season grasses. We were told that fairways are produced by sodding. One man said fairways are re-sodded every 7 to 8 years but his statement was not verified.

The use of a fine textured hybrid type

of Bermuda, such as Tifgreen, should obviate the necessity for dual greens. Bermuda greens could be over-seeded with a mixture of poa trivialis, blue grass and/or fescue and seaside bent for winter play. Tokyo weather is no worse than that in the belt from Memphis east.

Covered with Plastic

In Japan the winter greens are covered with heavy-ply black plastic, or rice straw mats, when the prediction is for frost. The cover is removed early the following morning. This eliminates the necessity of delaying play until the frost is gone.

The Philippines is plagued with a great deal of rain during the rainy season — up to 30 inches in one month. Even Bermuda fares badly under such conditions. Annual rainfall is 70 to 117 inches. The rainy season starts in May and extends through September.

Iron chlorosis was prevalent on all greens we saw, even in December, Grass was thin because of chlorosis. The green-keeper at Tarlac confirmed our suspicion that it had been much worse during the rainy season. Ferrous sulfate had never

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been used. Supt. Teodoro de la Paz applied ferrous sulfate according to instructions. His remarks in a letter confirmed the need for the iron, but he remains unconvinced about grass behavior in the rainy season. He said "Your memorable stay with us contributed a big jump toward our goal. The ferrous sulfate you recommended made an abrupt change of the golden colored spots to more eye-soothing grass. It was only No. 6 that consumed much time in reaction. In our second application, crystals of ferrous sulfate were used.

Possible Solutions

"At present most of our greens are such that the soil is hardly seen," continued de la Paz, "especially greens 5, 7 and 9 wherein you said that we are much behind comparatively to what you have in the states. I can say you should see them now. Although such is the case, come rainy season again, even a non-golfer won't enjoy seeing our course."

There may be no answer, but the challenge is there. These things will help and

may be the solution: Surface drainage must be perfect, and in several directions. The sub-grade must contain plenty of tile. It should be covered with a blanket of 4 to 6 inches of gravel or stone. The topsoil should be sand mostly, with not to exceed 15 to 20 percent of organic matter by volume. The introduction of Tifgreen Bermuda by Trent Jones may be an added help because it produces better turf than common Bermuda. Then fertilizer and weekly applications of ferrous sulfate should provide better turf than heretofore.

The drive from Kowloon to the Royal Hong Kong club was time consuming, so there was very little time to examine the turf and course. Fairway cover seemed to be weeds, mostly of the bullgrass type. Soil in the greens was heavy and compact. Vegetative cover was Bermuda, some zoysia and a fair amount of weeds. Play was good but turf inferior by American standards. Unfortunately a Mr. Kerr, the supt. was not available so we had no opportunity to obtain first hand information about the course.