

will find its way to the tiling system to be carried away.

If the fundamentals are conscientiously carried out, what would be the ultimate result? You would have as a foundation a soil structure that permits the soil to breathe. There also would be a soil formation that would allow water to percolate through, which is absolutely essential for the development of any turf, as turf-forming grasses make matted root stocks in the ground. The depth to which the roots will go depends entirely on the porosity of the soil.

The surface of the green should be resilient and not require half the frequently used amount of food or water to maintain it in first-class condition. You would not have to worry about the burning up of your green in the summer time.

The vital factor in the production of a permanent first-class turf putting green is *internal respiration of the soil, as well as external*. These are imperative, and both must function if you expect to promote a healthy and lasting turf.

I have many times been asked the question, how can a layman determine by the examination of a putting green whether internal respiration of the soil functions or not?

New putting greens that do not have any underdrainage and have a soil formation composed of a dense clay loam or heavy silt loam must give the turf 3 to 6 months' time to develop naturally their root stocks. If forced by being over-watered, over-fed, or over-rolled during the first few weeks of their existence, the result will be surface cohesion, bringing about a hard, tenacious surface, shutting off the air and preventing free percolation.

When these conditions exist, there is nothing but grief for the greenkeeper and a perpetual expense to fertilize and top-dress. He must force the grass to grow to keep the green in playing condition; but ultimately the greens become infested with all kinds of grasses, especially *poa annua* and carpet grass.

There are many putting greens ruined in the first year of their existence by playing upon them too soon, which forces the necessary rolling of the surface to stand the wear.

Old putting greens will easily succumb to surface cohesion. This can be brought about by too much rolling, over-watering, and by consistently using a clay loam soil

for the topdressing of the greens. This so compacts and seals the surface that it makes the soil structure practically impervious to water. Under-drainage and percolation is shut off and the surface becomes hard.

Where internal respiration of the soil is cut off on any green you will notice, if you examine a newly cut hole plug, a decayed root strata. There are roots of your turf 2 or 3 years ago. They now are practically dead and so rotted that they form a fiber sponge, thus confining a certain amount of water, either by rain or sprinkling, to be absorbed. Therefore when this root layer or layers become saturated, there is no place for the excess water to go. The result is, in hot or humid weather, the saturated surface sweats, fermentation takes place, then you have trouble with brown-patch, sourness, algae, all of which reveal in such unsanitary surface conditions.

The point I want to make clear is, if the soil structure had been such that it would have permitted internal respiration of the soil to function, these decayed and dead roots would have continued to penetrate and grow deeper in the ground and be a part of the present turf today.

First Woman Secretary Breaks British Club Precedents

GOLF CLUB of Keighley, Yorkshire, Eng., has appointed a woman secretary, establishing a precedent for that country. Secretary's position with many British clubs combined duties of general management and official greeter. Retired army officers are secretaries of the majority of British golf clubs.

Mrs. R. Mozley, Keighley's new secretary, says she cannot make rules against "golfing language" as women now use about the same words as men when in course difficulties. She advises that the Keighley men prefer beer at their bar, adding, "I do not intend the supply ever to be short."

TO A PROSPECTIVE member, the annual cost of belonging to the club is much more important than the initiation fee. According to those in the business, it is much easier to sell memberships at \$1,000, with annual dues of \$125 than to sell memberships at \$250 with annual dues of \$200. Think it over.