

In the flat lying districts it is sometimes expedient to grade the fairways as well as to drain them. I suggest doing this from past experience, one instance was that of the Royal Montreal Golf Course, Montreal, Quebec: the land was so flat that it wasn't possible to obtain a fall in any direction. Although an expensive operation the result was well worth the expenditure. Fairways of this description should have two main lines of 6 inch land tile with laterals or branch lines every 30 to 40 feet apart. An important detail in connecting these branch lines into the main, is to cement them and see that the fall runs the same direction as the main lines.

Protect Your Tile Outlets

It is a good plan to lay the main lines about six inches deeper in the ground than the branch lines, this gives a more ready flow. Main lines should be 3 feet 6 inches under ground with a fall of 4 inches every two hundred feet. The branch lines 3 feet under ground with a fall of 3 inches every two hundred feet, this will insure proper drainage and allow the water to gravitate easily. All outlets should be cemented to stop washouts and wire screened to keep rabbits, etc. from making nests in the main.

In laying the tile have the joints one quarter of an inch apart, over the tile place a thin layer of hay and six inches of clinkers, then fill the ditch within six inches of the top with cinders, this should be tamped firm and a layer of light soil to complete the filling. (Important, see that no clay is mixed with the top-soil.)

Fairways running through the hollows also need some attention. Generally one main line is sufficient with branch lines extending up the slopes: this system of tiling will also take care of the seepage from the hillsides.

Wet Sand Traps Unfair to Player

Another important drainage question on golf courses is that of sand traps, casual water in the trap is an unfair penalty to the golfer. (U. S. G. A. rules forbid a ball being lifted from casual water in a hazard.) Therefore all greenkeepers should make sure that the sand traps drain immediately after a rain.

I have seen many cases where the water has remained in the sand traps for several days after a heavy rain. most of these cases were avoidable. Location of the traps sometimes make it impossible to run a 3 inch tile into the rough. In this case a French well is a very good solution, made as follows: dig a hole 4 feet square and 4 feet deep at the lowest grade in the trap, fill same with large rocks or clinkers, clinkers preferred. Take a layer of sod and place same upside down to cover the clinkers, then about 3 inches of top-soil on top of the sod, scatter 6 inches of sand, this will take care of your water problem.

The ordinary everyday work of the greenkeeper in maintaining a golf course is often seriously hampered because of improper original construction, and it is only of late years that golf course drainage has received the attention necessary to efficient and economical maintenance. It costs a great deal of money and much discomfort to playing members, to tear up sections of an established course in order to install or add to a drainage system. A full and complete tile drainage system installed when the course is constructed will pay for itself within a short time after the course comes into play, and such a well drained course gives the greenkeeper every chance in the world to make good.

As We Approach the Green

FOR the reason that the approach, or apron to a green is used to a very large extent in the playing of the hole, it is very necessary that it be given very careful treatment so that it will be practically the same as the green. This means that it will have to have the same treatment as the green, both as regards the kind of grass used and the rolling and top dressing.

These approaches should be cut the same length as the fairways. They can be cut with the regular tractor but preferably with a small handpower mower, which makes it possible to cut close to traps and right up to the green.

These approaches should extend for about ten to thirty yards in front of the green, depending on the length of the shot to the green. On a long two-shot hole there

should be about thirty yards, while in the case of a drive and pitch hole there only need be about ten yards.

If the greens are all Bent then the approaches should be Bent. This condition can be produced by putting plugs of Bent into the approaches at various places. If the approach is very bad it would be best to disc it, then broadcast bent stolons, top-dress and then roll. Continuing to do this will, in a surprisingly short time, produce the result desired. Remember that perfect approaches are about as important as perfect greens.

Of course the approach can be seeded, in which case bent seed will give good results after the surface has been disced, top-dressed and dragged with chain or brush harrow. In this case the new grass should be allowed to grow long enough to establish itself before cutting.