

Turning Nature's Forces Upside Down

By VALENTINE FLOOD

Professional and Greenkeeper, Shuttle Meadow Club, New Britain, Connecticut

I AM one of the few who holds down the position of Pro as well as greenkeeper. I have been at Shuttle Meadow eight years. Came here from Ardsley Club where I spent five years, Crescent Athletic Club four years, Ocean Country Club of Far Rockaway four years, in charge of New York City's public courses two years, Pittsfield Country Club, Massachusetts two years. Construction work together with the growing of fine turf with me has been a hobby.

Shuttle Meadow is an 18-hole course, 6037 yards long with a par of 71. It is what might be termed an easy, hard course; easy for the duffer, hard for the par player, but always fair to both. Our greens are always green, and you are sure to have a good lie if you are on the fairway. The rough is kept so that you can find your ball.

I have been asked to write a few words on "upkeep" of golf courses. That sounds constructive—but in reality it consists of turning nature upside down—of course Nature rebels and employs every conceivable bug and disease to resist our actions. It drifts into a survival of the fittest with a continual fight going on, all the time.

Unnatural Conditions Govern Golf Turf

Grass was intended to grow into hay and pasture. We reverse that order of things to suit our pleasure, Nature fighting back in the most subtle ways, some of which, while going on all the time we know little of. But everything is counted by results, so, when things are going well, we think we have it. When they go bad we know that the enemy has paid us a visit. The great thing to find out is the real cause—which is not always easy. For example, there are hundreds of worms in the ground of which practically nothing is known. The workings of certain combinations of these grubs may entirely change the character of the soil.

Then there are other forces at command to safeguard Nature's interests, one of which she uses for pruning trees and grass plots. Every now and then she decides that we shall have a winter that will cover the trees with icicles, the coldness of which causes the limbs to become brittle, and the weight breaks them off. The Indians who have been watching the process say, "It is going to be a good fruit year." And when grass is planted too thickly Nature uses mildew to thin it out. When we convert grass into turf, we not only prevent it from seeding in the natural way, but we keep it working all the time at full blast, which was by no means intended.



Valentine Flood

A Good Greenkeeper Must Be "Jack of All Trades"

So we have to get some one to neutralize Nature's methods by bringing one force to combat the other. We call him a greenkeeper, and this is what he should be. First and above all he must have eternal vigilance. He must know the game's requirements, understand construction, drainage, soil structure, turf culture and have an elementary knowledge

of chemistry; must be something of a carpenter, blacksmith, plumber, machinist, painter and a good handler of men with knowledge of what each is best fitted for. Then he must be a strategist. These are part of the duties which he is sure to be called on to fill. You do not always get a man of this description. But having found the man, who in turn has gotten together his force,—

The first thing to be gone over is the equipment. "There is no time lost in sharpening tools." Get everything ready for spring. There is always a certain best time to do anything.

Nature's Time for Sowing Seed

The best time to prune an apple tree is any time you have an axe. But the best time to sow grass on thin

turf on a putting or fair green is in the spring when the frost has just about left the ground; after the process of thawing and freezing when the ground has been left in a spongy honey-combed condition. This is the seed bed constructed by Nature, on which you may plant "bent," with a nurse crop of "redtop," then cover the seed with a warm top dressing; use ordinary care and don't doubt the results.

This method applies to putting greens and fairways, only on the latter you may use some blue grass as well as the others—be sure that the seed is covered—don't expect to have it exposed to the sun and live. Nature has done her part by leaving the ground in such a condition that it invites seeding. One thousand men working one month could not put the fairways of an 18-hole golf course in such an ideal condition to plant grass.

There are two reasons why sowing grass seed in the spring has been condemned. First it was sowed too late, and secondly when it came up it was expected to thrive without care.

Why Do You Use a Roller?

After your putting greens, fairways and tees have been taken care of, you may direct your attention to rolling. But ask yourself why you are going to roll. Then answer yourself that it is not primarily to give the players good brassie lies, but to insure that the crowns of the grass plants be pushed back to the soil from which the frost heaved them. So that when they throw out their new roots, they will be in a position to reach food. Without rolling, starvation would ensue. Everything is annual either by root or seed, and new roots from bases heaved up by frost, would be out of reach of food centres.

Know Your Soil and What It Needs

Now upkeep embodies feeding, seeding, weeding, rolling, cutting, draining, bug killing and bug developing. The soil being the body or incubator that the seed is brought to life in, and the different seeds require dif-

ferent bodies—so nature has supplied different soils for the various seeds.

The problem of the greenkeeper is to make the different soil conditions harmonize with the requirements of the seed sown. This is where the use of manures and other fertilizers come in. Stable manure is the only complete fertilizer known; it is a plant food carrier returning to the soil $\frac{4}{5}$ of that taken away. It helps the physical condition of the soil so as to retain plant food moisture, and releases the minerals buried there. It promotes bacterial life, and land on which it is used responds more fully to commercial fertilizers.

Sandy or gravelly soils are usually weak in nitrogen, phosphoric acid and potash. While clays usually rich in minerals contain potash, they are poor in lime and phosphoric acid. Limestone soils are rich in lime and often in phosphates but poor in potash. Then we have soils made up usually rich in nitrogen but poor in mineral foods.

A knowledge of the elements contained in the various soils should act as a guide in the application of commercial fertilizers. But there is no hard and fast rule to guide you. As a general rule potash is a good thing to use on a sandy soil. A clay soil usually has sufficient potash but may require phosphoric acid and perhaps lime and nitrogen. Sulphate of Ammonia is a good thing if not overdone. A thing to remember in its use is that it absorbs moisture—and if used too strong or too often it will seal up the ground, shutting out the air and prevent capillary action, taking to itself the moisture needed by the turf.

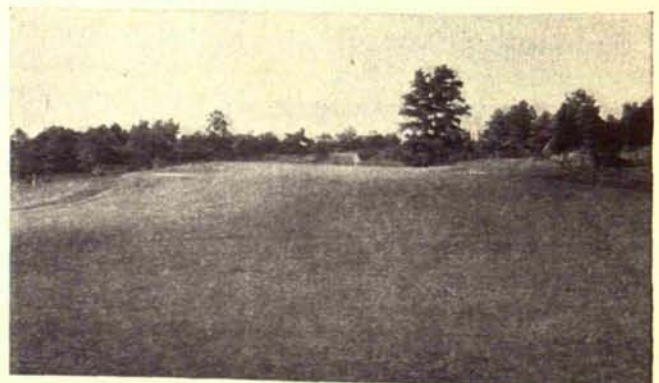
A Valuable School—Experience

Now from an upkeep standpoint the most important thing on a golf course is the greens, then the tees, then the fairways, then the bunkers. But there is no pen long enough to write down all the things that should

(Continued on page 42)

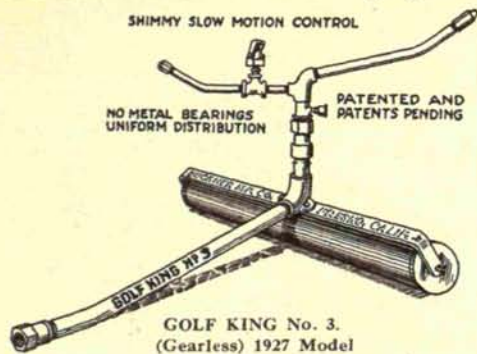


Number 17 at Shuttle Meadow



Number 2 Green, showing slope of fairway at Shuttle Meadow

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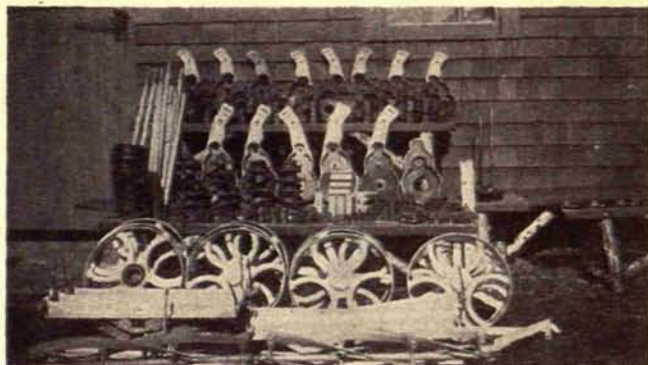
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(Concluded from page 26)

not be done to bring about a perfect condition. All must be general for different locations have different problems and different materials to work with—which very often



Machinery dismantled, cleaned, repaired and painted, ready for re-assembly at Shuttle Meadow

look the same. So after all the school of experience is the only one.

Greenkeeping like the game of golf is a paradox. The only way to learn it is to serve under a competent man, watching his successes and his failures and profiting thereby.

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