

# Modernize Your Course for Machine Maintenance

By T. T. TAYLOR

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**T**O INCREASE efficiency of both present and future equipment, we should consider modernization of the golf course as well as our maintenance operation. To do this, we should modernize our own ideas, abandon prejudices, and discard any traditional practices which have outlived their usefulness. We should be prepared to give new ideas every opportunity to succeed by encouragement and a fair trial.

I think the war period has demonstrated that we can do this, for I dare say that every golf course superintendent has taxed his resources and explored every possibility for efficient maintenance.

We were short manpower and we were forced to go into the employment of school boys. We converted hand green mowers to power mowers by the installation of Briggs & Stratton motors. The pawls and the drums were reversed, making the drum power-driven also. A lot of you men have done this. It is nothing new, but there is another suggestion which you may not have tried and which I have found will at least reduce the cutting operation by 25 per cent.

In turning these machines over to the school boys we found some of them that didn't quite adapt themselves to it, and very frequently they would run off the green and tumble into a sandtrap—machine, boys and all. The solution to that seemed to me to be to make that machine a little more maneuverable when you got to the end of the swath at the edge of the green and turned it. We solved the problem by using an eight or ten-inch pneumatic tire wheel, which was fastened on a bracket at the rear end of the mower. As you got to the end of the cutting strip and pushed down on the handle, instead of the motor dropping or remaining on the drum, it rested on the pneumatic tire wheels. There was no necessity whatever for reducing the gas or throttling the machine down. It stayed in gear. You merely turned the machine on these wheels and started back in the other direction. There was no loss of time whatever in the turning operation.

## Equipment Speeds Topdressing

We did not wish to discard our topdressing program entirely, yet it was not

possible to continue that operation with 8 men when you normally had 25 to draw on. The answer to that then was to rig up mechanized equipment out of the material we had at hand. We were fortunate enough to have an old green tractor; that is, one of the Overlawn machines, and we projected into the front of that machine three wire brushes, operating independently, one of the other, to follow the contours of the green. The topdressing was taken out early in the morning, when we couldn't topdress the greens anyway because of the dew, but while the greens were drying out the topdressing was spread on the top of the tarpaulin so the sun could dry it out, and in this manner we were able to get the material to such consistency that it would flow freely through a topdressing machine. We followed this up with the topdressing apparatus I have just mentioned.

Behind that Overlawn was a steel mat so that as you brushed in the front, you matted in the rear. By going over the green twice, you got all the material that you wanted down into the grass, and only the debris remained on the top. To eliminate further hand operation, there was no sweeping required, because we used snow-pushers. I do not mean snow shovels. Perhaps some of you are familiar with the ordinary snow-pusher in which you have a curved metal piece in front with a handle in the rear, and two or three men, one behind the other, would take this snow-pusher and push it across the green, and you had a lovely finished surface by the time you were through. We cut our topdressing operation by 75 per cent.

We found that by cutting the rough with the fairway machines it was necessary in some instances, where of course the grass got a little ahead of us, to go back and forth over the same area 2, 3, and maybe more times in order to get that turf down. However, we were fortunate enough to have 6-bladed rheos. So we took out every other rheo, making a 3-bladed machine, and where before we used 3 and 4 times the amount of gasoline, to cut that grass, with the 3-bladed machine we cut down the highest grass we had by going over that once. Thus you can see not only the manpower saved and the wear and tear on equipment, but also the gasoline

(Continued on Page 58)

## Modernize Your Course

(Continued from Page 47)

that we so vitally needed at that time.

I don't know what system you use to fertilize greens, but you can't do it in a few hours; at least I have never found anybody who could. If you used a soluble fertilizer, you would go out and apply it in your sprayer perhaps, or if you used a combination of materials, maybe you use some kind of fertilizer distributor.

### Bag Seeder for Fertilizing

We hit on the idea of a centrifugal seeder, a small bag type, that you hang on the shoulder, such as the cyclone seeder. You put a few pounds of fertilizer in it, go across the green 2 or 3 times, whirling the crank, and your green is fertilized, but you want to go in several directions and adjust the feed on this hand distributor in such a fashion that you will perhaps go over it three times, and you can do that very easily.

I am not exaggerating when I say that one man can go out and fertilize eighteen greens in this manner in half a day. I have seen it done, and I have done it plenty of times.

It is also good to emphasize that in this type of distributor it is almost necessary

to use a pellet type fertilizer. It is also a good idea to remember that this should be done after cutting rather than before. If not, some of the material will be picked up by the mower. Before you do your cutting following the fertilizer application, the material should be either pulled into the green or water applied to wash it down so it will not be taken off with the clippings.

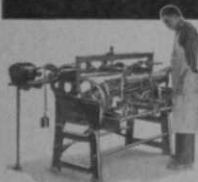
### Survey for Mechanized Upkeep

Many of the places on the golf course were mowed by hand because there were certain high spots, and if they were cut by the fairway outfit it would produce scuff and unsightly places. Therefore, they were cut by hand or some other long drawn out method. So we decided to eliminate as many of those as possible. We drove our equipment over these areas a sufficient number of times to indicate where the high spots were, and then we lowered those high spots, which opened up an entire new area to mechanized equipment.

That includes the areas around the greens and tees and many other places where we could improve the situation.

I believe the architect and anyone who constructs a trap, must bear in mind the landscape, in addition to where it fits into

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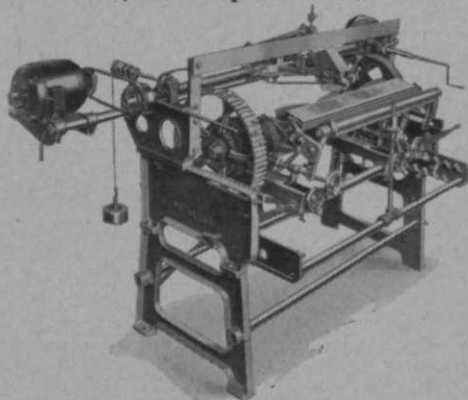
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the game itself. Many of them go all out on a limb, and try to depict nature in the raw, where nature isn't raw at all, so we wind up with traps that perhaps belong out in the Rocky Mountains, on seaside areas, and vice versa.

If you want to imitate Nature I see no reason why you should go to such extremes. If you should pick a stone up out of the brook you couldn't find the irregular shapes that you get in traps. Nature has worn that stone into smooth contours. If you look out at the desert or seashore, such as Long Island, you will see sand dunes with smooth regular curves that are just as natural as nature can make them. So I see no reason why we should go into so many letter S contours and shapes that make it so difficult for our equipment to get in to take care of it.

I would say that a good many of the facings of the traps that are now in turf should be reduced to such contours as can be cut with mechanized equipment.

We have a lot of traps that are built up with small grass islands, and the traps themselves are rather small. The islands can be eliminated and the small traps combined in one large trap. The steep sand facings should be reduced where the ero-

sion is a problem and also where the sand will not stay up.

I studied that problem a little bit, and I don't think it is practical to use sand on a facing that exceeds a 30 per cent grade slope. I would prefer to keep it below that. Sand will not stay up there satisfactorily and it requires too much handling.

You can eliminate traps which have no purpose, which were used in days gone by. Fill them up. Eliminate the work that is required to keep them maintained and also which interfere with the poor player who needs every advantage that you can give him.

I was surprised to find the reason for a good many of the knolls and hammocks. In 75 per cent of the cases there was a tremendous stump under them, or a rock. If it is impractical to eliminate them by hand, use dynamite. It is not a costly operation. It can be done. Not only that, but the material that you salvage from rock can be used to excellent advantage if you have water holes.

I can illustrate that by the fact that I have done that myself, and you would be surprised how you can not only landscape around the water hole but it eliminates



## WAKE up your turf...

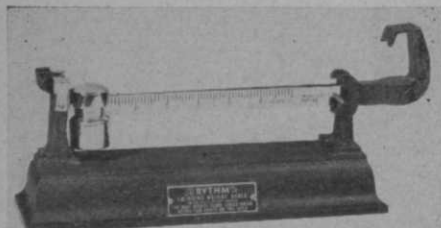
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those troubles that required so much labor.

Drainage is another thing that will pay dividends. Playing areas after a long rainy period are not suitable for play and you cannot get in to cut them in many instances. If your course has any income at all for green fees, imagine just what you are losing when those spaces are out of play, when those areas cannot be cut. If the drainage that you put in there will clear up those spots so play can be resumed and your equipment can get in there, naturally in time the green fees are going to pay for it.

In my place there are three or four fairways around the lake. If we had a prolonged rainy spell you couldn't play on those fairways. We have green fees and we have quite a lot of it. It was therefore to our advantage to get those fairways open to play as soon as possible, not only to satisfy the membership but also to cut down the cost of maintenance. We couldn't drain those areas because they were too low. The lake was in the way and there was no place to drain it. We were confronted with the problem, so this is the way we solved it. We dug a hole in the ground about 8 feet deep and put a concrete pit in it. We drained all the areas around that lake into this concrete pit, and then put a pump in there and pumped the water out into the lake. You would be surprised how we got those fairways in play.

Hilly spots are another item on some of our golf courses. We have treated those by landscaping, by putting in groups of trees which beautify the place and cut down the maintenance required.

Willow trees around water holes will keep the bank from falling in. One year we had 10 feet of bank fall into the lake from being undermined all along the fairway. The trees from the rifle range and the rock we salvaged from blasting have completely eliminated that and it is a beautiful hole.

You can't leave weed control programs out of the picture for reducing maintenance. If you haven't got weeds and clover in your fairways it is going to cut down the maintenance. You have to take care of weeds at some time or another. If you let them accumulate it is going to cost that much more to get rid of them.

No discussion on modernizing the golf course for efficient operation of equipment would be complete without including the facilities for keeping the equipment itself in efficient operating condition. This is just as important, if not more so, as any of the physical changes which we might make for efficient maintenance. Too many of our golf courses are inadequately equipped with shop facilities for repair, to say nothing of the comfort for the men who are employed in the shop. No matter



how good an employee is, he cannot turn out a good shop job if he is cold and damp and has poor tools to work with. I believe the simple requirements can be supplied by the average golf club if a program is instituted and incorporated in the budget on a 5-year plan. The efficient operation of golf course equipment begins in the repair shop.

*GSA Convention paper.*

## Postwar Maintenance

*(Continued from Page 42)*

mately \$13.00 per acre for the chemical; this is the 2,4-D in Carbowax, and used it on our No. 1 fairway at Skokie Playfield. Commencing at the green and working towards the tee we sprayed the compound at the rate of 10 pounds per acre in 200 gallons of water. We were advised after treating approximately one-third of the fairway to make the application at the same rate but to use only 100 gallons of water per acre. Approximately three-fourths of the fairway was treated on September 5th, the balance on September 17th, rainy weather and other work preventing us from completing the treatment before that date. An inspection on November 1st, showed approximately 90 percent of the dandelion and plantain eliminated.

As an experiment, we treated clover patches on a couple of the greens, mixing a solution at the rate of one-half ounce of Weedanol to 1½ gallons of water, spraying the clover patches to a sufficient degree to make certain that all the clover was thoroughly wetted. Two treatments were given, one on September 17th, the second on October 3rd. A considerable damage to the clover was noticeable immediately following the first treatment with no damage to the bent. At the time the second treatment was applied the clover showed some evidence of recovery. An inspection on November 1st showed that there was approximately a 100 percent kill of the clover leaves and approximately a 70 to 80 percent of the runners with considerable burning of the bent grass on the green.

Note the difference in rates—in one case the rate applies to pure 2,4-D, in the other the rate for the manufactured product.

We sprayed a burdock in the early summer using Weedone. The burdock at the time of spraying was approximately 3 feet tall. It took this chemical all summer to kill the burdock; the battle was interesting to watch.

Our experiments last summer show that 2,4-D is sure death to poison ivy and Canada thistle.

*March, 1946*

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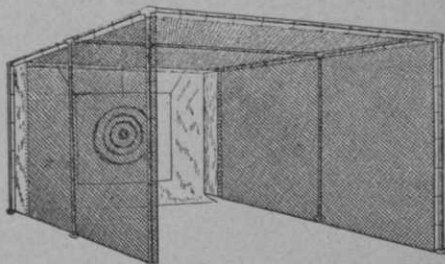


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