Streamlining Wartime Maintenance

By O. J. NOER

★ **Manpower has been the wartime bottleneck of golf turf maintenance. In 1944 labor shortage may become even more acute than heretofore. Last year there were rumblings of incipient difficulty with turf, especially toward fall. Too little, too late and too inexperienced labor was was the underlying cause. Troubles will gain momentum unless the problem of streamlining maintenance is solved. At best, the season ahead will be a trying one for the greenkeeper, the Greens Committee Chairman, and Club officials responsible for course maintenance.**

From every standpoint greens rightly deserve an AA-1 priority rating. They are the most important item on the course. Those in the know will zealously guard the turf on them. Given true putting surfaces, players are prone to be tolerant of sub-par turf elsewhere. Turf on greens shows the effect of neglect sooner than on fairways. Subsequent rehabilitation is very costly, and extremely annoying to players.

Last year dollar spot was rampant, especially during the fall. Fungicides, formerly effective, did not always check the disease. Some greenkeepers suspected a new, more virulent type. That dollar spot should be worse is not surprising in view of less frequent mowing and topdressing, the use of inexperienced labor, and skimpy fertilization.

The wartime change in mowing and topdressing practice is producing a matted turf. As a result, applied fungicide stays on top, dollar spot lives serenely underneath and continues its deadly work. The thick mat becomes an impervious roof which impedes or prevents the penetration of applied water. Before long, the soil underneath becomes powder dry. Then it resists wetting and the movement downwards of natural precipitation or applied water stops. Green help no matter how conscientious, seldom recognizes incipient signs of drying. Dry spots will extensively develop before they know trouble is in the making. During hot spells the spots coalesce and may become ugly scald areas, with the usual tell-tale covering of green scum. In spring and fall dollar spot may be more severe.

In either case, the surface stays sopping wet after sprinkling or after rains, because the soil is too dry. Wetness promotes scald, speeds the growth of brown patch and dollar spot fungi. Localized drying was responsible, in part, for the prevalence of dollar spot on knobs and high spots in sections where drought prevailed last fall. Despite their elevation, surfaces were too wet because soil below was too dry.

Modern greens mowers tend to accentuate mat formation when used on pure strains of creeping bent. Those with front scalping rollers are the worst offenders. Even when set to cut close, the mower clips off the leaf tips and protruding stems; except those that have been laid flat by the scalping roller. Then the rolling action of the rear drum trues the surface. The combination is almost unbeatable. In the past, mat formation was prevented by daily cutting, along with occasional combing and brushing, and by frequent topdressing, usually every month The mat never became too thick to prevent contact of top dressing with the soil below.

Mat formation is progressive. It increases from year to year unless the problem of prevention is solved. To topdress heavily matted greens may be positively harmful. The applied top dressing stays on top and seals the mat of highly decomposable leaves and stems below. Some of the intermediate products of anaerobic, or putrefactive decay—decomposition in the absence of oxygen—are harmful to plant growth.

During wartime, daily cutting and frequent topdressing are impossible. The problem must be solved differently. The simplest scheme is to remove the accumulated mat, produced the year before, by severe cross-raking followed by close mowing in early spring. The task is best done before applying topdressing and fertilizer for the first time. The secret of success is to take off **all** the surplus. It may take courage to do a thorough job, but the reward is less frequent and easier control of disease, better absorption of applied water, and vastly improved putting surfaces. If properly done, turf will not mat sufficiently that year to cause serious trouble, provided mowers are set to cut about one quarter inch, and provided scalping rollers are discarded.

On some courses fertilizer usage, especially nitrogen, was reduced drastically so there would be less grass to cut. This labor saving device seems justified in view of less frequent cutting. The scheme is almost sure to back-fire. Too little nitro-

gen is as bad, or even worse, than too much with respect to dollar spot. Nitrogen deficiency increases susceptibility to attack. Such turf invariably fares badly and does not respond readily to fungicides. Grass needs a constant and continuous supply of nitrogen. With chemical fertilizers which are water soluble, it means frequent applications at light rates. Natural organics can be used at heavier rates and less often. Soil organisms gradually release nitrogen from them as needed. Organics are less apt to burn and hence safer in the hands of inexperienced help.

Ammonium Sulphate is not readily obtainable. Urea (42 to 46% nitrogen) or ammonium nitrate (32%) can be used instead, at half the customary sulphate rate for urea, and two-thirds for ammonium nitrate, to supply the equivalent amount of nitrogen.

Where topdressing programs have been reduced drastically, the fertilizer program should restore the amounts of nitrogen, phosphoric acid and potash removed in clippings. It means stressing nitrogen and especially potash somewhat more than formerly. An application in early spring and again in early fall of 20% superphosphate at 10-15 lbs. and 60% muriate of potash at 4-7 lbs. per 1000 sq. ft. or their equivalent in mixed fertilizer will suffice for phosphoric acid and potash. Former rates of nitrogen should be increased slightly.

Lifting the ban on mercury means more diverse supply of fungicides. Thiosan appears to have won its spurs. It has been safe to use, even by the neophyte; it does not shock the grass, and is excellent for brown patch. Reports are less positive for dollar spot. Apparently rates originally recommended are too light. Some greenkeepers intend to use mercurials in spring and fall and switch to thiosan in hot weather.

Fairways are the perplexing problem. There is a disposition on the part of some to ignore them altogether. That is as bad as the opposite extreme. The sensible attitude is to place them next to greens in importance. If labor and materials are plentiful they should get their usual attention. It is cheaper to maintain good fairways than deliberately permit deterioration and then rehabilitate them. Where fertilizer is limited, the weak spots should get first call. There seems to be a disposition to stop watering. That should not prevent its use occasionally during periods of prolonged drought to keep turf alive. The recommendation adopted by the Chicago District Golf Association to cut fairways at 1¼ inches is a reasonable and good one. Their other recommendations as reported in March issue of Golfdom are excellent also, and worthy of adoption elsewhere.

The elimination of weeds and clover from fairways, and restablishment of good turf can be accomplished without any interruption of play. It can be done in a single season by using a chemical weed killer, in conjunction with a fertilizer program and some re-seeding if needed. That the plan is feasible and practical has been demonstrated on courses in Chicago, Milwaukee and elsewhere. Clubs faced with this problem should test the method in a small way. Then a program of fairway improvement can get under way when labor and materials are available, with full assurance that it will succeed.

Plugging divots on tees, and patching thin spots with turf from the nursery are unthinkable wartime luxuries. Generous fertilization and possibly one topdressing in the spring is about all that can be expected. Except in the crab grass belt springtime fertilization with natural organics should be at rates of 40 to 50 lbs. per 1000 sq. ft., or two feedings with 6-12-4, or other mixed fertilizer of similar analysis, at 15 to 20 lbs. per 1000 sq. ft. each time. Height of cut will depend upon kind of grass. Creeping Bent should be cut close, but higher cutting of other grasses is advisable. Weeds and clover can be eliminated after the war, by resodding from a nursery of suitable grass, or by using a chemical weed killer, followed by re-seeding if necessary. Play can continue on all or part of the tee while treatments are being made.

Most Clubs plan to continue cutting roughs at 2 inches as a golf ball conservation measure. The practice is sound from the maintenance standpoint.

It is unlikely that traps will be raked more than once a week. Players should be held responsible for their own foot prints. Elimination of useless traps and bunkers should be done at the earliest possible moment. It is one of the best ways to lighten the labor load. Many of them can be converted into grassy swails or hollows which can be cut as rough, along the line suggested by Herb Shave in Golfdom for March 1944.

Many golf clubs have prospered and consequently have sizeable bank deposits. Funds should be earmarked, and set aside to cover machinery replacements, the cost of turf rehabilitation and physical changes in the course which will enable more general use of power machinery. The need for removal of surplus traps and bunkers is obvious. Wherever possible tees should be modified to permit tractor mowing. Likewise abrupt contours in the greens proper, and around the edges, should be modified to eliminate the necessity for hand mowing and trimming. A work plan and estimate of cost should be prepared. After adoption by the Club, needed funds should be provided so the project can start promptly. The task should be entrusted to a permanent committee.