NOW the problem at most good golf clubs is to decide what work should be done on the course as postwar labor conditions and weather permit. The opinions of less experienced greens committee men and other officials may differ from the course superintendent's judgment about these jobs. The officials, unless they've been acquainted with course work and course conditions for years before the war may have but a superficial knowledge of the possibilities of course conditioning for better playing conditions and better turf. They may have become so accustomed to the wartime standards they may not realize that a fairly general return to much higher pre-war standards, plus the possibility of effective and economical weed control, is going to reveal great differences in courses.

But the greenkeeper who has kept in touch with all developments in turf management and who still has a keen ambition to have his course the best in his territory, has plenty of definite ideas about what postwar work should be done.

Power Maintenance Changes

Beyond all doubt power maintenance will be much more extensively used on golf courses. That means, just as soon as possible, the regrading of steep banks on tees, greens and traps that now require hand mowing. Some of these grades always will have to be cut by hand, otherwise the character of the hole may be changed for the worse by grading for machine operation. But in most cases the alteration can be figured out without sacrificing the interest of the hole, and with a substantial saving in maintenance cost as well as assurance of better maintenance.

Nuisance "chocolate drops" should be removed and the earth used as fill to lengthen slopes.

Brooks, streams and ponds should be cleaned out, and their banks restored. Bridges will need repair or rebuilding.

In numerous cases maintenance structures should be repaired, rebuilt and relocated. Inconvenient or unsightly location of shops and sheds is a common fault at golf clubs.

Equipment repair shops can be brought up to date or installed. More machinery maintenance is going to demand more repair facilities at the club. Now some great buys in government used machinery are available. Bringing power lines into these shops often is a problem. You'll have to decide whether to bring the lines in on poles or underground. Telephone and signal equipment into club course maintenance shop usually is inadequate. Check into that.

Heating, toilet and wash-up accommodations for employees have to be made better than they are in most cases if the right sort of help is to be attracted and retained, and winter work can be efficiently done in these shops.

Check Water Systems

Rusted irrigation pipe needs replacement. Pumphouse equipment possibly has been badly worn during the war years and may need replacement. New sprinkler outlets will be needed.

Water storage ponds may need attention. In some places the water table has dropped and new wells will be needed, especially with the possibility of additional supply being required for clubhouse air conditioning.

Clubs that are not connected to municipal sewers probably will need to install new filter beds or repair the old ones. There are many complaints about faulty sewage disposal systems and if a club is a possible source of stream pollution or pollution of neighborhood water supply it had better take preventive measures just as soon as it can.

Property line fences must be repaired or built, especially where the club is close to homes from which kids may wander over the course.

Clogged, broken and sunken drain lines will have to be attended to. Fairways or roughs may have to be widened and greens putting surfaces restored, in some cases, to pre-war areas.

Fallen and rotted trees must be cleaned out and stumps removed. There probably will have to be extensive pruning of trees and shrubs, and brush cleaned out along borders.

Roads, driveways and parking spaces will have to be repaired. In many cases larger and more convenient parking spaces will have to be constructed.

Frost-heaved stones that have worked up during war winters will have to be removed.

In plenty of instances putting surfaces will have to be levelled off to allow more
places for fairly placing the cups. Traps will need cleaning, drainage repairs and new sand.

Fertilizing, grub-proofing and liming neglect will have to be corrected. Not much liming was done during the war. In the New York metropolitan district leaching loss of lime per year is between 400 and 500 lbs. per acre.

There is a lot of outside painting to be done. Roofs need repairing.

As usual, the greenkeeper probably will have to attend to handling a lot of work that's not in his department if the club expects to open in 1946 looking bright and fresh and welcoming those who've come through the nerve-wracking war years.

**Wartime Lesson**

Many maintenance practices made necessary by wartime conditions or adopted as expedients probably will be retained in contributing to the general progress of course maintenance.

Labor management certainly was put in sharp focus by the war. Some greenkeepers had good results from sectional maintenance by one or more men per course section. Needed tools were kept in handy shanties. Other greenkeepers placed their major reliance in task groups, headed by an experienced older man who took young men out to clean up jobs as assigned. Studies of the two methods will have to be made at each course and the most practical system applied mainly. It's probably not possible to make complete application of either one of the two methods.

Machine maintenance surely is going to eliminate almost all hand scythe and sickle work. Workmen for these manual jobs are hard to get, and hard to break in and get to do what you want done. Courses are going to be better groomed when this sort of work is done by walk-behind sickle-bar mowers or horizontal blade revolving cutters.

There's going to be more careful attention to keeping routine schedules, consequently the probability of greater uniformity of results especially in spraying treatments, with doses based on weekly instead of 10-day treatments.

The pre-war schedule of daily or 6-times-per-week greens mowing probably will be restored at first class courses as labor becomes available.

The trend during wartime was toward fall fertilization of fairways; after Oct. 15 and even to the middle of December when the weather (in New York met. district) permitted, Play is off then and it's too early to begin equipment reconditioning and other cold weather work. Then there is less wind and no soft recently-thawed ground to worry about.

Some excellent wartime results were reported on feeding greens monthly (and in some cases weekly or bi-weekly in light doses).

Experiences in war-time watering suggested room for a lot more study of this problem. A greenkeeper who watered dry knolls lightly for a few hours each week before the war, in wartime let a sprinkler run all night each 2 or 3 weeks, and got better results.

There are chairmen and greenkeepers who assert that if traps are well trimmed and weeded and have enough sand wartime showed that it's a waste of time and money to have men rake them. Trapping during the war was mainly to replace sand where it belonged rather than to smooth out footprints. A footprint is part of the hazard, these people declare, and say they won't spend the club's money having the prints raked out unless there are loud complaints from members who are too careless or lazy to rake out the prints or have their caddies do the job.

During the war some clubs made compost fields using Hyper-Humus, or native peats; and two grades of sand, coarse "concrete" and fine "mason" or "brick" sand. They disced the material, or merely piled on the three layers and turned it over a few times for mixing.

**New Courses Due**

Several factors already are beginning to be felt in working up a boom in new course construction.

Among them are:

**Housing need.** Golf clubs that are finding it hard to meet taxes are slated to go for subdividing.

**Shortage of courses.** Returning servicemen of an age group that will respond strongly to exposure to golf in camps and at stations, alone will be more than present courses can handle.

**Demand for more and better public recreation.** Many of the new courses now on architects' drawing boards or in process of construction, are public courses. The Living War Memorials idea will push this phase of development.

**Decentralization of industry.** Industries are contemplating more moves to smaller cities where first class public recreation facilities, including golf clubs better than most smaller city private club standards, will be among "the more abundant life" inducements and rewards to labor.

**Changing requirements of older golfers.** Men who planned to retire after the war are older and find their courses too tough and tiring. They're talking about the simpler and shorter, but good courses with simple, small clubhouses. This may

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roots from getting into the green for a few years at least.

Fertilization of greens is important because it influences leafiness of the grass and affects the amount and severity of disease. Fertilization and the use of lime will be discussed in detail in a separate article, so only the basic principles will be pointed out here.

The use of phosphate and potash is more important on greens than on fairways because both are removed in the clippings, and growth is maintained by constant watering. Grass clippings contain almost as much potash as nitrogen, so if manure compost is not used, or top-dressings are fewer than before, it may be wise to increase the quantity of potash used as fertilizer.

In trials at Milwaukee during the past several years, an application of 0-9-27 at 15 to 20 pounds per 1,000 square feet in spring and again in the fall produced good results, and appeared to provide ample potash and enough phosphoric acid when Milorganite was used as the source of nitrogen. At the 20 pound rate greens received 1.8 pounds phosphoric acid and 5.4 pounds potash per 1,000 square feet in the early spring and again during the last half of August or the first half of September. The Milorganite used during the season provided additional phosphoric acid, which amounted to 3/2 pounds per 1,000 square feet. By using the phosphate-potash mixture in spring and fall, interim feeding became a matter of furnishing nitrogen.

**Disease Control by Feeding**

Dollar spot is encouraged by too little as well as too much nitrogen. Brown patch is aggravated by plentiful nitrogen and water because they make the leaf blades soft and lush. Brown patch is a hot weather disease, whereas dollar spot develops in cooler weather. Dollar spot is the principal disease all season in northern regions. Farther south dollar spot is troublesome in spring and fall, but rarely occurs in the hot summer months. That is the brown patch season.

Enough nitrogen should be used to hold dollar spot in check. That means more generous feeding with nitrogen in northern regions all season. Farther south it might be better to use enough nitrogen in spring to check dollar spot, and have grass show slight nitrogen hunger in hot weather when brown patch is bad. Toward fall the rate should be increased before dollar spot becomes bad.

There has been little ammonium sulphate available as such. It should be more plentiful, and ammonium nitrate may become available. The latter is a good source of soluble nitrogen and contains about 32 percent, so the rate of application should be approximately one-third less than was used for sulphate.

Greens should be checked this fall or early next spring for acidity and lime used if the soil is more than slightly acid. An application of lime will help speed the decay of surplus grass in greens that are acid. A finely ground dolomite containing 20 to 30 percent of magnesium should be used, where lime is needed, if soil tests show the supply of available magnesium to be low.

**Here's Golf Course Work**

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mean a new development; that of first-class 9-hole clubs on outskirts of metropolitan areas.

Order Now or Else . . .

It's absolutely certain that there won't be enough course maintenance equipment manufactured in most lines to meet the 1946 demand. Clubs that continue to stall about making up their minds on what they'll need probably won't get their orders filled until late next season unless there's an immediate improvement in the labor situation and a lot of efficient work in making up for the backlog on orders.

Another thing's sure for most clubs in metropolitan districts and that's a balancing of greensmen's pay with that of inside men. Dishwashers, pantrymen, and other unskilled house workers at N. Y. metropolitan district clubs get much higher wages than course workers, and the inside men get their meals and share of Christmas tips.

Readjustment of greenkeepers' and greensmen's salaries to a basis in balance with that of other club employees is something club officials had better be considering.

**Gus Novotny, MacGregor's New S. E. Man**

Henry P. Cowen, p pres., MacGregor Golf Inc., has appointed Gus Novotny to represent the firm in the southeastern territory. His headquarters will be Atlanta. His territory will include N. C., S. C., Ga., Ala., and Miss. Novotny, as a student at the University of Illinois, was finalist in the national intercollegiate. Since then, he has won many sectional tournaments, Gus has been an equipment salesman for the past 15 years.