THE months of September and October should be months of “full time work” in the maintenance division of a well-managed golf course factory. Not only must the seasonal “orders” for good playing conditions be filled, but the factory should begin to “stock up” for the big rush of “spring orders.” The “stocking up” program must be carefully studied by the manager (greenkeeper); the details understood by the plant foreman (greenkeeper or assistant greenkeeper); and the work carefully done by the mill hands (laborers). The board of directors (green-committee) chosen by the stockholders (should be playing members) should make no factory changes (alterations in the course) without first providing for the fall “stocking up.” If they do, the physical plant as a whole will deteriorate, and the dividends to be declared in April, May, June, July and August will be lower than usual unless “extra expenses” are incurred in the spring.

To be sure there are many influential club members clamoring to change this or that hole, and it takes courage for the green-committee to say “No” to such demands. Furthermore there is the question of the rights of the green-committee as laid down in the club’s by-laws (usually these rights are not defined), and the ever-debatable question of minority noise vs. majority passiveness.

The members have played many different courses during the vacation period, and have had excellent luck, or have been particularly impressed with certain individual greens. “Why can’t we have a green like the ______th on _______ course?” is asked about the locker-room so frequently that in time “the whole course ought to be altered” is the cry. Certainly some one hole is condemned and doomed for immediate alteration.

The new green-committee chairman elected last winter or spring now sees a possibility of his golfing life’s ambition “to build a decent green” being realized, and hastens to issue the proper orders for the construction of the “perfect green.”

All the demands for alterations and new construction are backed by the unbeatable argument that fall is the best season in which to seed and therefore the work must be started at once. The greenkeeper himself is really tired from the strain of the summer’s maintenance worries, and both he and his men welcome the idea of a change. Also, there is the opportunity to “keep the men later in the fall” and thereby gain a better hold on their services for next year. Thus it is not uncommon to find the green-committee, the greenkeeper and his men expending most of their energy on alterations or new construction during the months of September, October and November.
Without arguing whether the alterations and new construction projects are needed, let us assume that they are going to be undertaken. The projects are to be done under the supervision of a golf architect, or the green-committee, and the greenkeeper and his men are to do the work, without additional help. "That would add to the cost."

Don't Neglect Maintenance
Under such conditions, and regardless of the terms of employment, the greenkeeper has a very specific duty to perform, if he considers himself above a foreman's grade. It is a duty that he owes to his green-committee, his club, and himself. With a strictly business attitude and without arguing, he should cause his green-committee to distinctly understand that fall maintenance of the course is highly important and warrants the use of at least three-quarters of his men's time; and therefore requires three-quarters of the regular payroll, a large part of which the green-committee had planned to direct to new construction. He should show how fall maintenance will improve playing conditions in the coming spring and even permit a lower cost of maintenance to maintain the present standard.

The problem for the green-committee is to decide if additional laborers are to be hired for the alteration projects; the projects abandoned in favor of better fall maintenance; or the reverse. If the green-committee understands thoroughly the entire situation it can make their decision intelligently and cause the members to realize that the old adage "you can't have your cake and eat it" is particularly adapted to golf courses.

The writer knows of several golf courses that each season start with a lowered degree of maintenance because each fall the "gang is put on construction," and the summer's cultural advantages have been lost in the fall. One eighteen-hole course with a reputation for good greens, beautiful scenery, and excellent fairways in 1928 is now in a pitiful condition, with six "new greens" in abominable condition, and the others far below their 1928 condition. The greenkeeper is not responsible for such a condition, because he was not allowed extra men to care for the new greens, which because of their design, construction, and youth required particular attention. Instead he had to "go on with the same number of men," and try to keep the course in good condition. If that same club had not been the victim of a "new construction" chairman, and had decided on a five year maintenance program with the original greens, the course would now have increasing popularity and a reasonably contented membership. Furthermore the financial strain would have been spread over a five-year period.

Club members must be shown that the fall influences for course alterations must be carefully evaluated before being undertaken and that improvement of the physical condition of the present plans will return higher dividends than remodeling at the expense of maintenance. Furthermore a large majority of the remodeling done on the golf course adds to the cost of maintenance.

Appraise Fall Influences
What fall influences constitute "new construction" or alterations, and what constitute maintenance should also be clearly defined and understood. Those fall influences that will show a definite and pronounced influence toward better turf conditions of the existing course may be termed as maintenance influences. For example, drainage of a green or fairway, or the destruction of contaminating rough. To be sure any such operations will improve playing conditions, but that is the dividend on the investment.

Those influences that affect the playing conditions only may be termed as alterations or new construction. They also pay dividends (?) in the form of better (?) playing conditions, but there is often a high income tax on such dividends in the form of an increase in maintenance cost or general slighting of the whole course maintenance, together with no real physical improvements of the course as a whole.

There are many fall influences of a quite different type that can be exerted for the physical benefit of the golf course. Some are controlled by the greenkeeper and his routine work, and others must be considered as major operations.

Guard Against Injury
On northern courses September 1 to 15 should be considered the transition period from summer maintenance to fall and winter maintenance. Both putting green and fairway turf may appear tough and hardy, and in all probability they are, but there is very little change for turf to recover from mechanical injuries should they occur.
The combination of fall rains, clayey soil, and compaction by trampling is very likely to cause the turf to enter the winter in a root-smothered and "hide bound" condition. Such a condition is the cause of much so-called winter killing, late starting in the spring, and an increased amount of annual blue grass and clover, particularly on the greens.

The time between changing cups is a fall influence that may prove costly in the spring. The routine changing of the cup should not be governed by the day of the week but by the number of rounds played and the physical condition of the green. If the cup is changed three times a week, or approximately every 800 to 1,000 rounds, in the summer, it should be changed at least as often as every 400 to 500 rounds in the fall and early winter. Each spring many clubs find themselves with delayed and injured turf, due entirely to negligence in changing the cup during the preceding fall.

Fall fertilization with organic fertilizers is an excellent cultural practice if applied during September on the northern courses, and at a corresponding period of growth on the courses in the lower latitudes. If the soil remains reasonably moist and warm a part of the plant foods will be made immediately available and cause a mild stimulation of growth in the fall. Such a growth will be an influence on the turf's health in the spring. What plant food is not used in the fall will be available very early in the spring to "start the grass agrowing." Inorganic fertilizers applied in the fall cause a too rapid leaf growth during the fall without a corresponding increase in root growth, and very little, if any, value is received in the spring because of loss by leaching.

**Annual Bluegrass Is Glutton**

Greens that are reasonably healthy but are beginning to become infested with annual bluegrass will be better if not fall fertilized with an organic fertilizer. Fall feeding has a great influence on the aggressiveness of annual bluegrass. Preferring cool weather and growing later in the fall than other grasses, it thrives on the fall fertilizer if it is available; also, being one of the first plants to show life in the spring, it is ready to consume the first portions of the plant foods as they are made available. Like all blue grasses, annual blue is a very "heavy feeder" and will grab more than its portion of the plant food in the soil. However, in spite of its influence on annual bluegrass, fall fertilizing is beneficial especially for the fairways.

Light sprinklings are as bad for the turf in the fall as in the summer, because of their drying effect upon the subsoil. Real waterings are seldom needed in the fall; and the waste caused by over-watering increases in direct proportion to the lateness of the season. The grass requires much less water after its ripening period than before. Soluble plant foods may be washed off the soil, or so deeply washed into the soil that they are carried away in drains, or out of reach of the plant roots. If the greens are open and not "hide bound" or the slopes so steep that water flows quickly off the greens, nature will usually supply enough rains to prevent the soil from freezing "dry."

Burning of the rough in the fall influences the chances for fairway and green contamination by undesirable weeds and grasses. It also tends to make thick rough thinner, and destroys fungi, and larvae that may be planning to winter among the grass leaves. Many seeds blow from the rough to the fairways and greens during the fall and winter.

**Shady Tee Care**

Raking the tree leaves from tees that are in the shade during the summer has a marked influence over the health of the turf. Fall and early spring are the only growing seasons that grass under trees or in shade has a chance to develop in full light, and growth should not be hindered by leaves from the trees. If the tee is free from leaves, an application of an inorganic nitrate furnishing fertilizer and an organic fertilizer applied in mid-fall will show surprisingly good results.

Fall-made drains have a great influence on the health of the grass during the succeeding spring and summer, as well as a cumulative value as the seasons pass. If trenches are to be dug, workmen are much more efficient in the cool fall weather than at any other season of the year. Drains may be laid in the fall until the severe frosts arrive, for it is very bad practice to back fill a ditch with frozen lumps of soil. It is impossible to thoroughly pack the lumps, and many open channels are bound to be left. Through these channels rain water and melted snow will trickle rapidly enough to cause a considerable amount of sand and silt to be carried into the tile.

Greens that have low spots that hold
surface water, or hard poorly drained areas can be influenced to grow better turf next spring if these areas are dynamited. No, not blown up—just shaken. Dynamiting may be successfully done by drilling a small hole deep enough to go through the sub-soil and at least a foot or two into the foundation. If the hole is four feet deep and the dynamite well tamped, a third or half stick can be exploded without any injury to the greens surface. Thirty or 40 per cent dynamite is better than 60 or 80 per cent. While dynamiting may not be a permanent relief for poor drainage, its effect will last for two or three years.

This article, like last month's on fall seeding is intended to bring to the attention of the readers a few of the fall influences for good turf that should be carefully considered before any alterations are made or new construction work undertaken; it is an article on fall policy rather than facts. Undoubtedly the greenkeeper of each course knows many fall influences peculiar to his own course that should be exerted. Green-chairmen should realize that proper fall influences mean better playing conditions and usually a lower cost of maintenance.

Tree Nursery Valuable to Golf Club

By J. S. RIEGEL
Green-chairman, Sylvania (O.) G. C.

The desirability of a tree nursery on the course needs to be more generally recognized. A small space a little attention regularly applied and you have a really valuable adjunct for increased beauty to course and for comfort of players.

Grow trees native to your soil; gather mature seeds from the tree and plant at once in rows for convenient cultivation. Their rate of growth will surprise you and within three to five years you will be transplanting to permanent locations around your course. During this interval if you will transplant once in the row to uniform distance you will find it will greatly stimulate the growth of the fine hair roots so essential to the vigor of the tree.

If a frost occurs after the buds have swelled, quite often the leader will be killed and new growth will start from several buds simultaneously lower down on the stem, all but one of these must immediately be pinched off about an eighth to a quarter inch from the stem to insure the continued growth of a straight leader. Failing in this your young trees will develop into low, bushy formations and lose valuable growth upward.

Watch for Worms

Worms are a continual menace throughout the growing season and close inspection is necessary to discover them. Almost all are concealed, some under the leaf, others with a tender part of the leaf curled over them. Here again an hour's work with the fingers will care for them. Thirty or 40 per cent dynamite is better than 60 or 80 per cent. While dynamiting may not be a permanent relief for poor drainage, its effect will last for two or three years.

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