put in or how much grit and grime goes down into the crankcase to help lubricate your equipment.

#### **Check List on Equipment**

I would next like to suggest that you keep a record sheet of each piece of equipment that you are using, whether it is a hand mower, power mower, tractor, or gang mower in order to maintain a check on your maintenance procedures. In all probability, you have part of a week set aside at which time the different operators or mechanics check the equipment for loose bolts and screws and most important, lubrication. This sheet should contain the work that you want checked periodically such as draining the crankcase, checking the battery for water, checking air filter, tire pressure, etc.

As these operations are done on this particular machine, they should be checked off and the date when they were done so that you, who are responsible for this equipment, can refer to these charts and check the persons whose duty it is to perform these operations. So many times at the periodical check up time which you have set aside, extra jobs come up like fixing pumps, water systems or topdressing greens and of course you give instructions to "Let that job go for today and we will do it tomorrow". But, if you don't have a check on this piece of equipment, in lots of cases tomorrow may come 10 days away. This is entirely too long and your machine is not given the attention it should have. It has been found and investigated that 90% of your so-called breakage of mowing equipment is not caused from mowing fairways, greens, tees when you are doing this particular job but this breakage occurs when you are transporting your machines from one area to another which you are mowing. So, therefore, it is a very good preventative procedure to police your roadways or the areas that you cross from one fairway to another or one green to another in order that you can remove any obstruction that will break or damage this piece of mowing equipment.

Another problem that fits very closely in the maintenance of mowing equipment, and I can say has certainly been kicked around a lot, is the speed of mowing. The speed depends on the type of machine you are operating. Of course I do not think this has much to do with the hand mower. I have never seen an instance where an operator has pushed a hand mower at an excessive speed. But the little power mower, due to the fact that it has an engine on it, has certainly been abused-and I think that you will find that most power mowers are not designed and built to run with the throttle wide open at all times; but at a speed that is convenient and comfortable for an operator to walk.

#### **Mowing Too Fast**

In regard to the tractor-drawn equipment, this is an entirely different problem where you have horsepower enough to mow at excessive speeds. For fairway mowers, and I do not know of a high



### FROM SCENES LIKE THESE, OLD SCOTIA'S GRANDEUR SPRINGS

The 60th birthday of Willie Hunter, pro at Riviera CC (LA dist.), 1921 British Amateur champion and widely known in American pro golf, was celebrated by several joyous affairs. In this one at Riviera, Willie beams from around MGM's birthday present of a big jug of milk from wild Caledonian cows. The other merry-makers, from L to R: Aldo Ray, Bill Ching, Joe Novak, Helen Dettweiler, Vic Mature, Babe Zaharias, Scotty Chisholm, Betty Hicks, Jim Backus.

April, 1952

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speed fairway mower, I would like to state that it is my opinion the top speed should not exceed 6 miles per hours; that is, provided you want the type of cut with respect to smoothness that the fairway mower is designed for. Of course, if you are not particular, if the mower does not follow the contour of the ground and the undulations and you want a choppy cut, then your speed can be stepped up, in some cases, 10 to 12 miles per hour. But, here again you may run into trouble inasmuch as your maintenance and repair bills on your fairway mower will exceed tremendously your friend's across the street who is mowing his at a much slower speed.

Another important maintenance problem that has been pushed and kicked around, and I think everybody has his own version, is the proper adjustment of the reel type mower. I am going to give you my version of an adjustment of this type mower and the way I think it should be done.

First, we all know that any type of reel mower should not be adjusted too tightly. This has a serious effect on the mower in that it causes premature wear not only on the reel blades and the bottom blades, but it follows through the gears and bearings down to the traction wheels which carry the mower. For proper adjustment you should have the flyknife reel and the bottom blade making slight contact; or in other words, the clearance between the two should be zero zero. This will give you sort of a self-sharpening effect which is nothing more than a wear that is created between the bottom blade and the flyknife reel.

We know that the principal of cutting grass is nothing more than a scissors action so, for example, take an ordinary pair of shears and, if they are adjusted properly, you can cut a piece of paper or grass clean. Loosen up the adjustment on these same shears and you will find that it does not cut, but pinches. This is the same condition that happens with your mower cutting grass, but it will go a little further. As the grass is pinched off it will injure in most cases and cause a mechanical injury which is very notice-able on the fairways and greens, especially during the dormant season in July and August when the grass is tough. This loose adjustment also causes the mower to become dull. As the grass is pinched off and drawn across the cutting edge of the flyknife steel in the bottom blade, it will remove the sharp edge and will cause a rounding effect on these two surfaces. When this condition exists you have to do one of two things to get the mower back in adjustment.

First, using extreme care, adjust the mower tighter than you ordinarily do and cause the two edges to wear, bringing back the sharp edges or lap the mower in with emery.

#### **Maintaining Proper Adjustment**

I have been asked on numerous occasions: "If we maintain proper adjustment of our mowers throughout the cutting season, why do we have to sharpen our mowers before the season is over?"

You are all well aware of the fact that the flyknife reel is ground almost to a flat surface with a slight radius on the blade. The bottom blade is ground perfectly flat on the face and also the front edge of the steel. As the mower is adjusted and worn, this front edge of the bedknife steel is worn away down to a point where invariably it has reached the knife edge instead of the square surface. As the reel travels across this knife edge, it has a tendency to pick up this feather edge and carry it back across the face of the bedknife steel particularly if you should be cutting turf where there is an accumulation of abrasives such as sand, worm casts, etc. Then the mower has the appearance of being dull, which it really is. To eliminate this condition, use a flat

To eliminate this condition, use a flat mill file and, filing straight and square across the edge of the bottom blade, remove this sharp edge to about 1/16th of an inch surface. This will again bring back your cutting and shearing effect.

Another phase of grinding mowers, and

again most everybody has his own ideas and theories, is how much bevel or clearance to grind on an individual flyknife blade. The reason for grinding this clearance is primarily to ease the drag between the cutting surfaces. On tractordrawn equipment where there is plenty of power to pull the gang of mowers, I do not think that this is such a problem because the more clearance you grind on the individual blades, the quicker the flyknife reel will wear out; and it is to your own advantage to have these blades conform to as near a perfect cylinder as possible.

However, in a little hand machine where power is a human element, it is quite noticeable how hard a machine pushes, depending upon the width of the two surfaces, and your blades should be ground accordingly. This is not quite so noticeable on the power mower as the reel is driven by an engine, but again, if this surface is allowed to get too severe, you will begin to notice a lack of power in the engine.

In the three applications I have just mentioned, I would like to caution you not to make the mistake of grinding the bevel entirely out to the cutting edge of any machine. This is purely a waste of time and material. When this sort of grinding has been done, you will notice



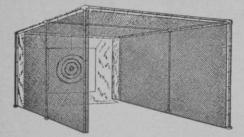
# Give them a WARM-UP HOLE

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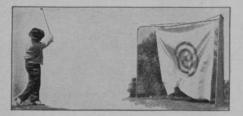
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that in a very short time, in a matter of one, two or three days, you will find this sharp edge worn away and the machine will be back to 1/16th or  $\frac{1}{8}$ th of an inch on a cylindrical surface.

Installing a new bottom blade to the backing or bed shoe of any type of mower is a very important procedure. First, after removing the worn out steel from the bedknife backing, the backing should be thoroughly cleaned of any accumulation of grass clippings or rust particles and the new steel wiped clean in order to have two smooth surfaces bolted to the bedknife backing.

The next important procedure is to grind the bedknife steel after it is assembled to the bedknife backing and before it is installed in the mower. To my knowledge, all lawn mower grinders are equipped with a bottom blade grinder but are not generally used. The reason for grinding the bedknife steel after it is assembled on the backing and before assembling in the mower, is to remove any imperfections in the cutting edge of the steel.

After the backing assembly is installed in the mower, the finger guide that is used to true-up the reel has a true surface to work from and you are not grinding imperfection in each individual flyknife blade. In all probability, when the mower is removed from the grinder you can eliminate the process of lapping in the mower with emery, as so many are doing at the present time.

#### Keep It Clean

Another important maintenance procedure is keeping your equipment clean. Most all equipment is so protected that it can be washed off with water without damage to bearing or seals. I would recommend that this be done so as to clean off accumulation of grass clippings and grit that forms on the mower and prevents it from building up and forming a grinding compound that eventually works into the bearings and gear and causes premature wear. A small piece of hose and a little water will really pay you dividends. If you are fortunate enough to have an air compressor, I would certainly recommend cleaning your equipment with air.

#### **Check Fire Insurance**

The greatest enemy of mowing equipment, or any equipment, is fire. It is surprising to know how many park departments, golf courses and municipalities throughout the United States lost all their equipment last year through fire alone.

If they were fortunate enough to have their equipment covered by fire insurance, it isn't a chore to dig up another \$10,000 to \$15,000 to replace this equipment; but if they haven't, it is really a problem

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and maybe somebody is going to try to mow grass this coming year without any equipment.

If you have fire insurance, have it studied by a reliable insurance company and be sure you have adequate coverage. If you haven't any insurance, get some! A fire extinguisher located in a convenient position in your barn may decide whether you will have equipment to take care of your course for the tournament that starts tomorrow.

In my travels over a period of years, I have heard a superintendent enthused with the person in charge of equipment make this statement: "My mechanic is one of the best, and he has forgotten more than most servicemen know". This statement may be correct; but if this mechanic could go back and refresh his memory with the minor points he has forgotten, it would pay worthwhile dividends.

## Course Force Has Planning Lunches at Ridgewood

Ridgewood (N.J.) CC is in its third year of spring and fall lunches for the course maintenance staff which, says George Jacobus, the club's veteran pro, have proved to be one of the best operating and employee relations ideas ever used at the club. Jacobus, who has overall responsibility for outside operations; Wm. Sweisberger, course supt., and his asst. Robt. Kapherr, get the entire force together for lunch. The lunch isn't held unless all the men on the force are present.

The entire afternoon after the lunch is spent in reviewing the good and bad phases of work that showed up in performance, discussing plans and methods and frank talks of nature of the maintenance job, methods, costs, wages and labor relations at other courses.

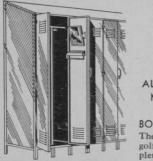
Sometimes rumors heard about operations at other courses are discussed and by telephone to supts. of other courses the facts are learned and made known.

The lunch and afternoon program, according to Jacobus, has helped Sweisberger and him tremendously in getting the course men to realize their individual responsibilities and importance and to sell them on the idea that they mean more to the club than just being anonymous fellows working out on the course. Simply



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the idea of having them in the clubhouse for a lunch and business meeting has a strong and favorable psychological effect, Jacobus says. He adds, "It's strange that clubs after seeing the beneficial effects of the caddy dinners haven't made more use of clubhouse affairs in developing better business and more personalized relations with men on their maintenance staffs."

## Scotty's Pals Keeping His Generosity Living

Friends of the late Maynard G. (Scotty) Fessenden, in pro and amateur golf, are raising a fund from which students at Stritch School of Medicine, Loyola university, Chicago, can borrow. Cost of medical education usually has medical students deep in hock, and in looking around to establish tributes to Fessenden's memory, the Stritch school students' need was found to be urgent.

Fessenden, as pres. Western Golf Assn., Chicago District Golf Assn., and Bob O'Link GC, and chmn., Advisory committee, PGA, and in his private capacity as a golf enthusiast, was a merry fellow of quick and vast generosity. Response to the announcement of the fund has quickly indicated that those in golf who knew Scotty and rejoiced in his gay, hospitable and generous living welcome the opportunity to continue the work of his spirit.

Čontributions to "Scotty's Fund" may be sent to Earl U. Dean, Bob O'Link Golf Club, Highland Park, Ill.

## W. H. Graffis Dies at Logansport, Ind.

William Herbert Graffis, father of Herb and Joe Graffis, publishers of GOLFDOM and GOLFING, died March 11 in Memorial hospital, Logansport, Ind. He was buried at Mt. Hope cemetery, Logansport, March 13, which would have been his 82d birthday.

His last illness was mercifully brief, and was discovered at St. Petersburg, Fla., where he spent winters.

Mr. Graffis was born on a farm in Pulaski county, Ind., where his grandparents settled in 1827. He was educated for the ministry at Butler university but on graduation entered the newspaper business at Logansport. He was a reporter in Logansport and Indianapolis, then became publisher of newspapers in Terre Haute, Ind., and Sedalia, Mo. He later published business journals at Chicago, for the telephone, gas and oil industries.

In 1927 he retired from business to devote himself to farming and his scholarly interests and returned to the homestead he'd left for a vigorous, high-principled and courageous career in journalism.



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#### Continuing Program Needed to Eradicate Poa Annua By MARSHALL FARNHAM Supt., Philadelphia (Pa.) CC (GCSA paper)

I will concern myself only with "Poa annua — foe", even though admitting that it has been a friend at certain limited times. At those times it really should be classed as a "false friend" because any feeling of security based on its presence is certainly not justified.

The only role which I think of in which Poa annua's presence may be an asset is that of greening up turf of warm season grasses during a cool season when they are dormant and discolored.

Further north there are undoubtedly areas where Poa annua is less likely to disappear during the summer but it does not seem sound to call it a "friend", even in such locations. The conditions in such locations should certainly permit the establishment and maintenance of Poa annua free turf without too much difficulty.

So, call it a "foe" and get started in doing something about it without waiting longer in the hope that someone, some day, somehow may come along with something which may permit us to make good turf of a perennial nature out of a plant which is really a biennial.

To me, Poa annua is truly a weed which must be replaced if uniformly good turf conditions are to be provided. This replacement does not mean that we will ever be 100 per cent free of Poa annua, but it does mean that the amount must be reduced so that its disappearance will not result in thin, poor turf.

Basically, Poa annua seems to be nearly as good an indicator of hard, tight soils as knotweed. Now that we have practical aerifying equipment that factor does not loom so large. One reason for tight soils

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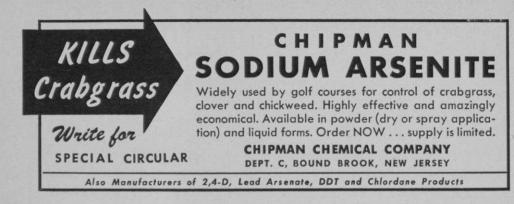


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under Poa annua turf may be that when the Poa anua thins out the soil loses its turf protection against compaction by traffic.

The thinning of Poa annua infested turf is often followed by clover infestations so that when fall seeding time comes one is confronted by the problem of establishing new seedings on a clover infested area which will soon be tightly covered by a stand of Poa annua from its seed present in the ground.

I have been confronted by such problems and never made the slightest progress in turf improvement on such areas until the advent of sodium arsenite as a herbicide.

With the use of several doses of sodium arsenite to open up clover patches and check Poa annua seedlings I have been uniformly successful in starting a satisfactory stand of improved turf from seed. These satisfactory results refer to the introduction of bent into Poa annua infested areas. I am not sure that they will hold for the introduction of bluegrass, even the Merion bluegrass, due to the time required for germination.

Obviously, thorough aerification to start correction of tight soil conditions, thorough seed bed preparation, and proper fertilization are essential in any renovation program. Whether a spike disc or aerifier are used in seed bed preparation I have always noted superior seedling establishment in the holes or openings made by the equipment, As a result, all areas renovated this past season were aerified at least eight times, each in a different direction.

At times a renovation program is definitely indicated to introduce desirable grasses to combat "Poa annua — foe", but, regardless of need for and soundness of such procedures, it must be recognized that it is only the start of the essential program. I know that you will agree with me that, on areas where Poa annua is bad, good turf can not be developed in a single season or by a single season's work.

The single season's work is only the start which introduces desirable turf grass or grasses. Results may appear to be spectacular but there will still be Poa annua present. A turf of the introduced desirable grass must be developed over a period of years and all possible methods of keeping the remaining Poa annua from again obtaining the upper hand must be continually used.

This requires a sound and continuing maintenance program. The following should fill their proper role in such a



program: Continued aerification. Sound mowing procedures. Liberal fertilization (100 lbs. or more of N per year per acre). On fairways I apply this in three or more applications starting in early August, before Poa annua germination starts. Only organic N is used. Where bent is concerned, keeping down or opening up of thatched conditions is involved. Checking of Poa annua seed production by treatments with arsenical or other chemicals offers interesting possibilities. As needed watering, in preference to more frequent sprinklings, is sound procedure.

Without going into further details which may be repetitious of what has been discussed, I repeat and emphasize do not kid yourself — Poa annua cannot be conquered in a single season, but I believe that my results are sound basis for the statement that it can be conquered over a period of years. Again, unless one can put such a program into effect that the needed procedures can be carried out over a period of years, do not waste time and money on any single year's work.

## Trade-in Deals Give Push to Spring Selling

Whether or not to hold trade-in club deals until after the big buying is over in spring always will be debated among pros. Some successful pro businessmen say the trade-in proposition never should be offered until along in mid-summer when club selling needs forced draft. Others at private, public and semi-public courses are just as sure that by offering moderate allowances on traded-in clubs at the start of the season you not only make sure of business from players who are undecided about buying, but can sell the traded-in clubs and not have money tied up.

Bob Gutwein, at Sunnehanna CC, Johnstown, Pa., believes in getting the club selling off to the best possible start as the season opens. He sends to all his members, in March, a copy on which there's the following copy:

### Need New Clubs? . . . Then TRADE-IN your old set NOW!

Start the 1952 golf season with the new equipment you've been wanting . . . for less money than you'd imagine.

The demand for used clubs is always at its peak in the Spring . . . as a result, I can give you a bigger trade-in alowance for your old set now.

So, why not drop around to the golf shop, and look over the fine new 1952 golf merchandise that I now have in stock . . . and at that time, if you so desire, I'll be happy to give you an appraisal of your old set.

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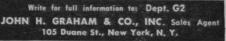
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IOWA TURF COURSE

(Continued from page 67)

of oak wilt and the two fatal diseases of the elm. Insect pests that are troublesome on recreational areas can be banished by the use of one or more of the modern pesticides, according to Dr. Harold Gunderson. He also described how to control moles and gophers, harpoon trapping for moles and poison for the gopher. Paul Burdette described the type of spray machinery used to control insect pests in large shade tree areas. A color movie illustrated how to do it.

A new idea in drainage was presented by Dr. Glen Schwab. The new idea under extensive test by the college is to pull a perforated plastic tube into a mole constructed drain, and at a saving in cost over tile drains.

Last, but not least on the program, Charles Wilson and H. L. Lantz reviewed the past season's results secured by chemical control of crabgrass. By proper dosage and timing, three chemicals gave an excellent kill. At the two leaf stage, sodium arsenite and the phenyl mercury acetate compounds did a good job. Potassium syanate gave best results when applied at the period of seed head formation. It appears that chemical control is

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feasible, but both speakers stressed that chemical control should be accompanied by a fertilizer program that will promote the kind of turf that is able to compete successfully, with weeds and weedy grasses.

Tom Mascaro took a tape recording of the lectures, and in addition gave an illustrated talk on how aerification can be used to help rejuvenate fairways and tees.

# U. OF MASS. MEET PAYS

(Continued from page 58)

not forcibly inform the club members and directors of the costs — particularly cultural cost — involved in following a fad or popular demand. The club officials should take the major portion of the responsibility.

It is unfortunate that the business management of golf courses is far behind the requirements. The golf superintendent is comparable to the superintendent in charge of production in the business world. He has the knowledge and interest of the club at heart and his opinions should be given and considered.

Golfers want good fairways with thick turf, clipped at a height of 9/16 of an inch. By all means give it to them, but

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