absolutely agree and so I believe does every member of the P. G. A., that is what we need and must be our next step. A year ago it was decided by the National executive committee of the P. G. A. to place the matter of raising the dues sufficiently to allow us to hire such a man. This matter is to be definitely settled at the annual National executive committee meeting to be held at Cleveland in November.

Paddle Own Canoe

The article mentions part of the expense of hiring such a man could be borne by the manufacturers. I believe I am voicing the sentiments of every man of the two thousand members of the P. G. A. when I say we must learn to paddle our own canoe.

Pro Qualifications

Regarding qualifications of a professional as mentioned in the article, there is already a national ruling in effect that no one can become a member of the P. G. A. unless he has been three years in the profession. This means either three years as assistant under a professional or three years as professional at a club.

There is, and has been, a good deal of talk regarding the professional credit rating. The average loss is I believe about six tenths of one per cent, which is perhaps slightly larger than some lines of business and a good deal less than others. Nevertheless, while I cannot of course speak officially for the P. G. A., I feel sure the executives of the P. G. A. would gladly appoint a committee to confer with a committee of the manufacturers upon this point to see what improvement could be made.

I feel GOLFDOM is generous in opening up its pages for discussion on our profession; it should make the pro realize his responsibilities, bring sharply to his attention that he is a member of one of the most responsible professions in the world, that he is very much in the public limelight and last but not least, there is only one way for our profession to succeed as a whole: proper organization.

P. G. A. Member Says Increase Dues

Editor, GOLFDOM, Chicago.
Sir:

Your article in last month’s issue of GOLFDOM, “P. G. A. Hour of Destiny Is Here,” hit the nail on the head when you said the P. G. A. could use a “Hays” or “Landis.”

Having been a member of this organization since it was organized, I realize and appreciate the good work the executive committee have done in the past, with no remuneration for their time, but when they have professional duties to attend they are putting a hardship on themselves.

I have attended several meetings and heard many discussions on this subject, and I, for one, would suggest raising the dues to $50 a year, and employ a man with marked ability to handle the affairs of this organization, who can visit the different sections and help the officers handle the admission of new members. I have seen, in the past, new members accepted with but slight qualifications. If we had continued to take members just for the dues that they pay, and not character and capabilities, then we wouldn’t have gone very far. That day of casual membership standards has passed.

The increase of dues will keep out the so-called pros who are a detriment to this association, also pay the salary of a competent man who could, among other duties, help put the P. G. A. on a very strong financial basis. I am sure that the business pro can well afford this if he wants his profession put on a high standard.

I may state that I read, with intense interest, your magazine, and I want to congratulate you on the good work you are doing, especially from the professional’s standpoint.

Sincerely,
W. L.

Should Tell Clubs Good Pro’s Qualities

Editor, GOLFDOM, Chicago.
Sir:

Have read, with much interest, your article in the September issue of GOLFDOM on the P. G. A. destiny. You say that the professional golfers are crying for a Moses to help lead them out of the wilderness, which is more than true. It is a complicated situation which opens up many lines of discussion and solutions that lead nowhere. In my opinion, the uncontrolled rapid growth of the game in the last few years has not been good for

(Continued on page 38)
Selective Control of Weeds Explained

By GEORGE SARGENT

In August GOLFDOM I discussed the pros and cons of ammonium sulphate as a weed-control agent, while the importance of proper fertilization and management of turf were stressed in the September number from the weed control angle. While it is vital that the greenkeeper be thoroughly versed in both the theory and practice of the above phases of turf maintenance, nevertheless, in themselves, they do not furnish him with ammunition adequate for a winning battle with the weed problem. It would appear that I can wind up this series of three articles on weed control in no better manner than by supplying him with a few soft-nosed cannon balls.

Weeds and the fine turf grasses are all plants, obvious as it may sound. Consequently if you have a turf in which both are present, and wish to eradicate the former by chemical means, it is good business to watch your step. Don't get too rough in your tactics or you will succeed in eradicating not only the weeds, but the grass as well. To succeed in the quick elimination of weeds by chemical means, you must use what is technically termed a selective agent. You might, in ordinary parlance, refer to it as having a discriminating action, if we can attribute such a quality to such an inanimate material as a chemical. Iron sulphate, for instance, has been known for years as a weed control agent. Theoretically, at least, you can spray a mixed turf of weeds and grass with this compound and the weeds will die while the grass will be unharmed. Theoretically this may be true, but in actual practice the compound is tricky and uncertain. You never know what the ultimate result will be, and often the grass is killed. Greenkeepers are afraid of it, and justly so. Consequently it has never had much vogue in turf maintenance circles. The compound lacks discrimination, or, in other words, it is not foolproof.

Selective Control Agent

Arsenate of lead, on the other hand, from the standpoint of its use on turf, is a striking example of a successful selective control agent in that it is rich, juicy meat for the majority of fine turf grasses and poison to the majority of weeds. In order to explain this fact, suppose we consider briefly the chain of chemical events which occur when arsenate of lead is mixed with the soil in which a mixed stand of fine grass and weeds are growing.

When arsenate of lead is added to soil it is acted upon chemically by the soil solution or, in plain language, the soil moisture. This soil solution or soil moisture is not just simply water, as a great many people think. Rather, it is water in which are dissolved a great many things, such as phosphates, nitrates, sulphates, potash salts, etc. It is from this soil solution that the plant obtains a por-
Crab-grass control by arsenate of lead is well illustrated in this picture. Early in June, as the crab-grass began to sprout, the plot on the right was treated with arsenate, while the plot on the left received none. Note also how stunted are the few crab-grass plants which have not yet succumbed to the treatment.

tion of its food. This soil solution, acting on the arsenate of lead, causes a chemical change to take place as regards the latter, or, in chemical jargon, "breaks it down," with the result that we then have in the soil some soluble arsenic, some basic arsenate of lead, this being virtually inert as far as toxicity to grubs, worms and weeds is concerned, and some ordinary arsenate of lead which has as yet been untouched, since the capacity of the soil solution is such that it can break down only a comparatively small amount of arsenate of lead at a time. The process, however, while relatively slow, is continuous, and ultimately all the arsenate of lead undergoes this chemical change, with the result that in time the arsenate of lead loses its grub, worm and weed controlling virtue and additional arsenate of lead must be added to the soil to restore its grub-proof condition.

Does Arsenate of Lead Doom Soil?
The opinion is still held in some quarters that the continued addition of arsenate of lead to turf will ultimately result in the ruination of the soil due to the cumulative action of the chemical. From the theoretical chemical standpoint, such an ultimate soil condition is improbable, if not impossible, while in actual practice, turf treated eight years ago with relatively huge applications of arsenate of lead is still going strong.

As stated above, one of the products of this chemical action between the soil solution and arsenate of lead consists of soluble arsenic, or, in other words, the soil solution or soil moisture, as a result of the chemical action, contains some arsenic in solution and consequently capable of being absorbed by the plant roots present in that soil.

When the roots of a grass plant, as, for instance, creeping bent, come in contact with this soluble arsenic in the soil solution, one of two things happens, but which one we do not as yet know any more than we know why a chicken crosses the road or a canary bird sings. Either the roots of the grass absorb the soluble arsenic out of the soil solution and find it palatable or they possess the ability of taking their regular soluble food out of the soil solution and rejecting the arsenic. At any rate the vast majority of fine turf grasses thrive in soil containing arsenate of lead. Not so the majority of weeds commonly found in fine turf. When the roots of these plants come in contact with the soil solution containing soluble arsenic they apparently absorb it, with the result that the weed is poisoned by degrees and ultimately dies. This reaction is evidenced to the close observer by the stunting of weed growth following the application of adequate amounts of arsenate of lead to the turf and the gradual yellowing and ultimate death of the individual weed. This reaction is especially noticeable with such rank growing weeds as crab grass and chickweed. It can be mathematically measured in the instance of a solid mat of chickweed by pegging the
outer boundaries of a specific patch of this weed prior to the institution of a program of lead arsenate treatments.

**Slow Death to Poa Annua**

In the case of such relatively inconspicuous growths as *Poa annua*, the elimination takes places with the greenkeeper hardly aware of what is going on, or as the poet says, "unheralded and unsung."

So much for weeds already present and in full growth prior to the institution of the program of lead arsenate applications. How about the weed seeds which rain onto the turf with every puff of wind and swirl of rain? Of the numerous species of weed seeds which locate on an arsenated green, many are killed as soon as the seed takes up some of the soluble arsenic and before it even sprouts, while many others, while they may germinate, are nevertheless stunted in growth, cannot compete with the heavy turf grass growth and fade out of the picture.

As stated in last month's article, we are concerned as regards the weed problem in fine turf with only the upper quarter to half inch of surface soil, since weed seeds present in the soil below this depth are ordinarily not sufficiently strong to germinate and push up through a greater depth of soil. The problem of weed control, therefore, narrows down to that of so treating this surface-soil layer that weeds already present will die and weed seeds subsequently deposited thereon will not germinate normally, but on the contrary will die. Furthermore, on greens where top-dressing is practiced such top-dressing must also be rendered weed-proof.

**Weed Control Directions**

I have in previous articles gone into detail as to the best methods of applying arsenate of lead to fine turf, and the reader is referred to these previous articles for specific directions. It will, no doubt, however, be advisable at this time to make a few recommendations for the use of this compound purely as a weed control agent for those who have no particularly pressing grub or earthworm problems confronting them.

Let us suppose that you have a green with a heavy weed content and you are desirous of adopting the arsenate of lead method of control. If you are desirous of obtaining quick action and sharply outlined results, it is advisable to use five pounds of lead arsenate per one thousand square feet of turf, applying this amount of the chemical in one application and taking care to secure an even spread. The question of evenness of application cannot be over-emphasized since it is obvious that if the chemical does not come in contact with a given weed that weed will not be killed. Unevenness of application results in uneven weed kill or spotty control, as some would term it, and this can be corrected only by again arsenating those spots in which the weeds persist. The above application will go a long way toward cleaning up such weeds which are so difficult of removal by ordinary hand weeding.

The removal of these types of weeds by hand result in bare spaces in the turf and necessitate the insertion of plugs wherever a matt of weeds is removed. In addition to being laborious and expensive, it usually has a tendency to make a rough green, no matter how carefully the operation is performed.

By the use of arsenate of lead, this "plugging" is rendered unnecessary. As the weeds begin to feel the effects of the arsenic they become stunted in growth, take on a sickly appearance and gradually fade out, during which time the bent grass in the immediate vicinity makes a heavy growth, pushes in and fills up the spot formerly occupied by the weed. So quiet and orderly is this transformation that it is not apparent unless certain weeds or mats of weeds are marked and maintained under consistent observation.

Inasmuch as the top-dressing material teems with weed seeds, arsenate of lead must be applied with each top-dressing application in order to maintain the so-called weed-proof surface layer. For this purpose the chemical should be applied at the rate of one-half to one pound per thousand square feet of turf with each top-dressing. For light top-dressings, use the half-pound rate, while with heavier applications, use the pound rate.

Crab grass is probably the most annoying of weeds in fine turf, not only on the greens, but the fairways as well. Arsenate of lead will kill it off at any stage of its growth, and on arsenated greens it is rarely much of a problem. For the control of this weed on fairways, where consistent top-dressing is not practiced, it is best to apply the chemical just as the crab grass is beginning to sprout (250 pounds per acre). Of course, you can apply the arsenate at any time and clean up the
Public course golfers are exacting and they are getting increasing higher grade facilities from enlightened and competent municipalities. Here is one of the public park clubhouses at Minneapolis where park golf management is of excellent character.

I propose to write in GOLFDOM on the “problem of the worn-out fairway and how to bring it back.” I have a few ideas on this subject which may prove interesting and furnish food for thought for the up-and-coming greenkeeper.

** ARSENATE of lead has no direct nutrient value for grasses, but treated and untreated plats, side by side, show that the majority of grasses grow more luxuriously in arsenated soil than in soil not so treated. The explanation of this grass stimulation lies no doubt in the fact that arsenate of lead does a great deal in controlling nematodes, and adverse bacteria and fungi which infest all grasslands and tend to slow down the growth of vegetation. Consequently, it may be said that arsenate of lead has an indirect nutrient value for grasses.—B. R. Leach.

** ARSENATE of lead, at the dosages recommended for grub-control, is death to Poa annua and it is having considerable vogue in the East as a means of ridding greens infested with this grass, which to most golf clubs is highly objectionable. Under the circumstances, would not advise the use of this chemical by greenkeepers who wish to retain their Poa annua greens. —B. R. Leach.
Before—Grading out of places so that the tractor can cut what was previously done by hand

FALL WORK That

By T. H. RIGGS-MILLER

"W"orking against the budget" is the greatest factor in preventing the greenkeeper from doing in the fall a great deal of effective work that would enable him to get an early start on the following year's operations. Whereas, if a judicious expenditure were made in the fall, even though it exceeded the budget allotment, it would be more than repaid by a contented membership, and thus cut out the kicks that are otherwise bound to occur.

In the first place it is the exception to find a course so constructed that alterations or modifications of one kind or another are not necessary and in this respect alterations made by one green-committee will not suit the ideas of their successors.

Members of a green-committee, most of whom play their home course exclusively, are seldom capable of seeing its weaknesses, and neither are the crack players of the club who are often called upon for advice regarding contemplated changes. The expert player can usually distinguish a good hole from a bad one, but rarely has he the creative genius to visualize a good one.

When improvements or alterations are contemplated or necessary, even if the alterations be minor ones, the committee should engage the services of an architect, and the final choice should be made only after the committee has seen and studied his work on other courses. To those who have made a study of golf course architecture, or even to the observing golfer who has played many courses, it is quite easy to distinguish an architect's work. Architects have their style just as our prominent artists and writers have, and one architect's style will appeal to the committee more than another's. Oftentimes only a day or so of his time is required to solve the remodeling problems and to make a plan for future improvements so that anything that is done will be always a part of the ultimate plan, and not something haphazard or the particular whim of the chairman of the green-committee. The cost of such service is insignificant in comparison with the money that can be saved through his advice and the future satisfaction which the club members will derive. For work of this kind the only plan that is feasible is for the club to set aside a certain sum of money annually, because it is unfair to the greenkeeper to have such a sum marked against maintenance cost—when it is purely an improvement or construction item.

The fear of "being hauled on the carpet" often prevents the greenkeeper from doing
a great deal of work of this kind in the fall of the year. His only thought being to see how soon he can dispense with the men, which he proceeds to do. Then when spring comes, the greenkeeper and green-chairman will say, "Well, that ought to have been done last fall, but we didn't get to it."

Alterations and improvements to the course are by no means the only work passed over for the same reason.

Why Costs Mount

We might ask ourselves, "Why are maintenance costs mounting year after year?" Simply because labor costs have risen and we are working in the same old way as when wages were half what they are today, without bringing our facilities up to date. About 75 per cent of the labor costs are chargeable to two divisions: No. 1, grass cutting, which includes the mowing of greens, tees, fairways, banks, approaches, bunkers and rough; No. 2, the making, screening, preparation, distribution and spreading of compost.

No. 1: Grass cutting with our improved mowers is very efficiently done.

No. 2: Compost making, etc., is very backward, and this in spite of the latest developments in screening devices. Compost will always be a big factor in the maintenance of golf courses, and the efficiency of its preparation and handling will be the determining factor of its cost. Turf grasses on soils of ordinary productivity can be maintained indefinitely by the use of chemical fertilizers alone. But the continued use of chemical fertilizers without any organic manure produces a solid, hard condition on clay soils which is not desirable from a golfing point of view. This condition is prevalent on farm lands where the continued use of chemicals alone has been the practice, even though it be cultivated once or twice a year, and can be overcome only by the use of stable and green manures, which are absolutely necessary for encouragement and life of beneficial soil bacteria.

The same condition is making itself felt now on many a golf green, where pitching to the green is becoming a problem on account of the green's hardness. It is impossible to plow up the greens every year. But they need always an abundance of decaying vegetable matter—the bacteria will do the rest. Plant roots feed as near to the surface as the heat of the sun or the moisture of the soil allows. The upper layer of the soil is usually rich, especially in sod land, and the plant food is continually becoming available.
mulch of compost keeps this upper layer moist and adds to the feeding ground of grass plants.

It can, therefore, be seen that there is a multiple effect from the use of compost, and that the compost pile plays a very important part in the life of a golf course, and rather than give up the practice as many have done, it must be encouraged to the very limit.

Compost Extravagances

Now that we have touched on the importance of compost, what is the history of the average compost pile? Ninety-five per cent of compost piles are made in the open and, therefore, can only be worked when thoroughly dry. Which means the best days of summer, when the course is calling out for a dozen and one other things to be done. The result is, more men are hired in order to catch up. Whereas, if there is a compost shed large enough to carry out all the operations necessary, the compost pile can be made inside in the fall, and be ready to work in the spring, irrespective of weather conditions. You are then in a position to top-dress as soon as the weather opens up, something obviously impossible to do if your compost pile is not sheltered.

Speaking from experience, the amount of money actually saved by having a compost shed (to say nothing of the satisfaction of being able to top-dress when you feel like it) is hard to believe.

I built a compost shed in the fall, two years ago. The size is 28 feet by 75 feet (four feet wider, i.e., 32 feet by 75 feet, would be ideal). The first year I stored about 450 cubic yards of compost, sufficient for two seasons. The following spring we screened and prepared sufficient compost to top-dress a month earlier than usual. Since this time we have always had at least 100 cubic yards of compost in readiness; all of which has composted a year at least, and this without cost, because we do this on rainy days, so that the labor employed would otherwise have to be charged to lost time. Not only this, but we have been able to dispense with three men without feeling their loss, thus saving $3,500 a year in wages for the club.

Saving Costs

On most courses men are paid by the week. On rainy days they either go home or sit around the barn. Mr. Chas. H. Hart, C. E., green-chairman of the Siwanoy Country club, who is a keen student of costs, tells me the item of waste time amounted to $2,317.32 over a 3½-year period. This sum would build, or at least go a long way towards building, a compost shed. It would certainly pay the interest on a very handsome service building, paying, as a dividend, the actual cost of making compost. Which, as in my own case, amounted to $3,500.

New York district never has had such a phenomenally wet season as this year. We have had the normal year's precipitation in three months. Nevertheless our top-dressing program has not been interfered with, on account of having, at all times, a good supply of prepared compost.

The fall is the ideal time to take care of these problems, as maintenance work is at a minimum. A fall program can include, besides architectural changes and compost, the sodding of tees, sanding of bunkers, the levelling out of odd corners, and the drawing out of mounds, etc., so that the tractor will be able to cut places now mown by hand, or anything that will increase the efficiency of the men and add to the pleasure of playing.

I do not mean to assume for a moment that upkeep costs will decrease, but I do insist that very much more can be gotten for the sum expended, if the clubs will modernize their facilities.

If your club plans to add more bird-houses around the grounds before next summer, buy them now and get them up. Birds object to newly-painted domiciles and will rarely use them until they have weathered for several months. It is a mistake to wait until spring to erect bird-houses.
Today's Conditions Make Winter Operation Big Query

By EARLE G. LEE*
Manager, Lake Shore Country Club

MY ADVICE on keeping the country club open in the winter was sought by an acquaintance, an officer of a newly organized club. Their plan was to organize a club to feature golf—with a membership composed of men of moderate means. They wished to operate as economically as consistent with the providing of good golf. My answer was as follows: Construct your course, build a clubhouse, provide good locker and lounging facilities, a quick service restaurant with as little overhead as possible, state emphatically in your by-laws the purpose of your organization, the activities you are to provide and that the clubhouse will be closed at the end of the playing season and opened in the spring as soon as playing conditions warrant.

There is no doubt that closing in winter is a money saver, but with the prevailing times, can the country club remain closed?

Conditions Change

It can be considered from many angles and standpoints. Fifteen to twenty years ago, when the country club was all the name implied, it was a foregone conclusion that it would be closed in winter. As it presents itself today it is a question and a problem, for there is a growing demand on the part of the members for an all year club. The strength of this growth depends entirely upon the number of members residing or intending to, in the near vicinity of the club. The number is increasing, due to improved transportation facilities and the desire for an all year round home in the country.

We all know the real reason for closing the club in winter is the lack of demand for its use and the added expense incurred. The demand is on the increase, the amount

*Club managers' convention address.
to cover the expense must be provided. Members opposed to such a plan years ago are being won over, good roads are a help in this direction.

I have spoken of what I consider confronts the average country club now operating, organized ten or fifteen years ago, originally to feature some one or two sports and has allowed itself to be drawn in deeper and deeper with added activities, added expense and added assessments.

There is to my knowledge just one club in the Chicago district, meeting the situation successfully. It has devised a plan whereby the winter operation takes care of its own expense. The regular membership being closed, it offers a limited number of winter memberships to those qualified and to whom it may appeal, it also collects a fee for winter sport privileges, and the increased membership tends to help in carrying the departments satisfactorily. However, at the time of organizing it was in the country, but abreast with the times the membership gradually moved to the suburb and their homes now surround the Club. (This is the Skokie Country Club whose winter operations were described in November GOLFDOM.)

Of course, there are clubs of old standing that have and are now operating on an all year round basis—on a limited scale and with as little added expense as possible—funds to cover being taken from the dues income. It is a very unsatisfactory method, and one that only clubs of the wealthier sort can afford to assume.

I do not mean to say that conditions such as I have related are to remain. I believe it will be the means of a more definite understanding in the beginning between the organizer and the proposed member, as to just what the nature of the club's activities are to be, thereby eliminating a possibility of a condition such as exists today.

From the standpoint of the Club Manager, today's general condition I cannot see other than as a detriment. By keeping open, even on a limited basis we are able to some extent to keep the organization together—a great help at spring when a smooth working machine must be produced in short time.

All in all, it is a hands-off proposition for the manager. When the question arises my advice is to handle it as diplomatically as possible, avoiding the expression of opinion, for there will be a divided membership, factional disputes and the like. It is strictly a problem for the Governing Board, and we must accept the decision and be controlled accordingly.

I do not know what has been accomplished in my attempt to analyze this subject. It depends upon conditions and the period of time in which we live. As we live in cycles, by the time we have all the members moved and residing near the Club, the trend may be reversed—the all year home may be back in the city and the members flying to and from the club. However, the question "shall we close in winter" would still exist and I truly believe it to be one of the greatest problems confronting our operation today.

Written Tie-Ups Help Smooth Operations

THERE is some difference of opinion as to the advisability of a large directorate for a golf club, but at the Meadow Lake Country club (Kansas City, Mo.) a directorate of thirteen functions efficiently and smoothly because each new director who is concerned with committee affairs comes onto the board with a written report from his predecessor to guide him.

The system at Meadow Lake is described by H. C. Allen, who was president of this organization for three terms. Mr. Allen says:

Our method of organization is not complicated. We have a Board of Governors consisting of thirteen members. The terms are arranged for one, two and three-year periods. A Nominating Committee is appointed by the President, and twice the number of board members to be elected are nominated. This list is sent out to the membership at large and is posted at the Club Room and the annual election is held the first Tuesday after the first Monday in December of each year.

The first meeting of the new board is then held according to the club by-laws the third Monday in December. At this meeting the following officers are elected: President, First and Second Vice-President, Treasurer and Secretary. Our standing committees consist of Finance, House, Greens, Handicap and Tournament, Membership, Entertainment and Caddie. The chairman of each of the standing committees, with the exception of the Caddie, must be a member of the Board of Governors, as provided in our by-laws.

The President selects from the Board of Governors the chairman of each committee and makes his recommendations for other members to serve on the com-