

Meanwhile applications of chlorophenol mercury in 1-400 solution were made on the other greens at the rate of 50 gallons to 1,000 square feet, and the progress of the brown-patch was checked immediately. On the 16th green only about three-fourths was covered by August 6. A week later the line could be easily distinguished where the treatments had left off. Treatment was continued, and the green brought back into uniform condition.

A few general remarks may be of interest here. The green strips secured as a result of experiment No. 1 were invaded anew by the fungus after about ten days. The fungus was, of course, very abundant on all sides. The fungicidal effect was obviously no longer present on the blades of grass in the treated strips, so that the fungus was enabled to invade from the edges.

On the 14th green brown-patch developed, without treatments, to a serious extent. In its weakened condition it became a prey to crab grass, which became thickly established. An attack of brown-patch is therefore not only serious in itself but also in that it permits the invasion of weeds.

Where chlorophenol mercury was applied in the solution of 1 to 200 (2 pounds to 50 gallons of water) sometimes a slight yellowing of the grass became evident the following day. This effect disappeared after the first cutting. None was evident after the application of the weaker solution of 1 to 400, and this solution is therefore recommended. No permanent injury from an accumulative effect of the organic mercury has as yet been apparent. Since the chemical is already in the form of an organic compound it is hardly possible that it can accumulate in an inorganic form, and such injury as Dr. Oakley has reported from copper sulfate is not likely to occur.

In conclusion I wish to express my appreciation for the facilities and help rendered me in connection with the conduction of these experiments by the Boyce Thompson Institute for Plant Research, and particularly to Dr. L. O. Kunkel, of the Plant Pathological Division.

The Philadelphia Green Section *

By H. K. Read

The Philadelphia Green Section was organized in May, 1921, and was the first so-called local section formed. The officers consist of president, vice president, secretary, and treasurer. We have various committees, and their chairmen with the officers constitute the executive committee. Meetings are held at different golf clubs during the playing season—usually preceded by a tournament in the afternoon. It is at these meetings particularly that we give manufacturers and dealers the opportunity of demonstrating or exhibiting equipment or material. In the winter we hold our meetings at some city club. We make an earnest effort to have all our sessions constructive; we do not gather primarily for entertainment. We try to have at least one special talk on some subject of real importance in course maintenance. This leads to a general discussion of a most helpful character. This is a brief outline of the activities of our Green Section; they have proven to be not only enjoyable but distinctly helpful.

* Address delivered at the Annual Meeting of the Green Section, January 10, 1925.

However, some of us thought that much more could be accomplished. We knew that all the clubs had practically the same kind of problems. Some were fortunate in having as green chairmen men who were enthusiastic and willing to give sufficient time to study, to make them thoroughly proficient in their job. Other clubs were not so fortunate. The outstanding need seemed to be some source of information that could be absolutely relied upon and always available.

We finally organized, in March of last year, the Service Bureau of the Philadelphia Green Section. Right here I want to record our appreciation for the help and co-operation extended to us by the Cleveland Green Section, which had been operating a bureau service most successfully for some little time previous. Especially I want to thank Mr. Joseph K. Bole for the practical assistance which he gave to us. Our Bureau maintains its own office, in charge of a competent secretary, Mrs. I. K. Eddy. Thirty-six clubs are now members of this Bureau, and contribute to its support. Clubs having 18 holes or more pay \$100 a year, and those less than 18 holes pay \$50 a year. We act as agent for our member-clubs, by placing all orders for equipment, materials, or supplies of any sort that may be required. Orders come to us on requisition forms which we supply. These requisitions are carefully scrutinized both as to kind of goods ordered and the amount. This frequently results in changes that are not only beneficial, but also makes for economy. Naturally we keep in touch with manufacturers and dealers and market conditions as far as possible.

At the start we met with a limited amount of opposition in our efforts to obtain price concessions to which we feel we are entitled. I want to take this opportunity of acknowledging publicly the almost uniform goodwill and co-operation that we now enjoy from the trade. If a concern has a product of value, it has only to prove this to the Bureau, and thereby reach 36 clubs at once. It is not hard to realize that this not only represents a substantial saving in sales cost, but also makes a better price possible and justifiable. Our member-clubs are now buying practically everything from a rake to a tractor through the Bureau. This enables us to sidetrack much foolish and wasteful purchasing; it is not an easy thing now to stick one of our clubs with a chromo.

The Bureau also creates a greater degree of responsibility on the part of the dealer; he knows he is doing business with an organized clearing house of 36 clubs, and not with a single, more or less isolated one. But the dealer gets something in return; graft is eliminated. Our method of obtaining requisitions and placing the orders, insures this. If a dealer passes out commissions or gratuities to anyone connected with our clubs, he is a fool. He is simply wasting his money. Moreover, if the Bureau learns of it, he will be hurt far beyond any benefit he could hope to obtain. Just as soon as we see a head raised that looks like graft, we hit it, and hit it hard. This has been one of the most objectionable practices of the past, and no effort should be spared to eliminate it. It is my judgment that the bureau plan, as it is now operated in Cleveland and Philadelphia, does this most effectively.

We also supply a bulletin service, the same as Cleveland. These bulletins consist of information on various subjects, and a copy is mailed to every chairman of the green committee and also to the greenkeeper. From time to time, these bulletins call attention to work which should be taken

care of at that particular season. For illustration, in the spring we issue a bulletin outlining the best method of conditioning the course. We advise when rolling should be done, and how, both on fairways and greens. We suggest the best fertilizers to be applied, what quantities should be used, and how the application should be made. We cover many other questions of interest. But this gives you an idea of the service rendered by the Bureau.

The Bureau is indeed a clearing house for information. Every day we have calls from manufacturers, dealers, green-committee chairmen, or greenkeepers. We try to find out all we can about everything relating to course maintenance, and then arrange and index it so that it is readily available. It is surprising how much information drifts in to us. It would not be possible for any individual to gather the same amount of material; the bureau acts like a magnet, and just naturally attracts it. Moreover, when it comes in we know what to do with it; it is not lost in the shuffle of other things; it is placed in the proper folio, with other data on the same subject.

The Bureau also has on file information regarding greenkeepers. A number of our clubs have found it desirable to make changes in this direction and we have been able to put them in touch with men of desirable character. I believe that this end of our service can be developed considerably with much advantage to the clubs.

It would be interesting, probably, to tell you in more or less detail, exactly the things which we have been able to accomplish; it is a most interesting record but would consume entirely too much time. However, starting late in the season, when most clubs had practically completed their principal buying, we have placed over 750 separate orders. You must understand that one order might constitute a number of carloads of material, or a large quantity of equipment from one manufacturer. We have been organized less than a year, and a complete summary of our purchases is not attempted. Some principal figures, however, are as follows: \$20,000 worth of large equipment (tractors, mowers, rollers, harrows, screens, etc.); \$5,000 worth of small equipment and miscellaneous materials (wheelbarrows, rakes, shovels, scythes, poles, cups, flags, insecticides, etc.); 15,000 pounds of grass seed; 60 carloads of sand (clubs have never before received a first-class grade of sharp white sand at the price at which we have been buying it); 50 carloads of fertilizer and worm eradicator (bone meal, sulfate of ammonia, mowrah meal, mushroom soil, etc.); 26,000 feet of rubber hose. When it is considered that the Bureau did not really begin to function until spring was well advanced, and many clubs had already completed their buying for the season, these figures can be better understood. The orders placed this year will no doubt show a material increase.

The Bureau is constantly called upon to give advice as to the equipment which should be ordered or material to be purchased to accomplish certain desired results. We recommend nothing that we do not have satisfactory information about. The Bureau is absolutely impersonal, and favoritism does not exist. Any other basis of operation would be vicious.

The principal difficulty is in getting a Bureau of this character properly started. Philadelphia is fortunate in having a number of men connected with its local clubs who have had wide experience and acquired

sound information on course maintenance. We divided the work into two parts, one having to do with turf culture and the other with machinery and equipment. When any problem was presented on either of these questions and there was not sufficient information on file to take care of it, the secretary would call up one or more of our committee for additional information. If we needed still more facts, we did not hesitate to telephone, telegraph, or write letters. All the time information and experience was accumulating, until now our secretary is able to take care of practically all inquiries that come in, on almost any subject.

In conclusion, the Philadelphia Green Section and its Service Bureau want to acknowledge the fine co-operation and help always extended to us by the United States Golf Association Green Section. It would be difficult to overestimate the value of the experimental and research work carried on at Washington. Without the assistance of this agency, any bureau such as ours could not hope to operate with the greatest efficiency. Here again, the Bureau enjoys a big advantage over an individual club; we have the problems and answers which develop with all our clubs gathered together at one source.

I can visualize the future, when bureaus like those maintained at Cleveland and Philadelphia will be scattered throughout the United States, and indeed other countries, at all principal golf centers. These bureaus can constantly exchange the information which each develops, to increase the value and efficiency of each separate bureau. Such an organization receiving the valuable and absolutely essential advice from the parent body, the United States Golf Association Green Section, is bound to bring about not only better playing conditions but a tremendous saving in operating costs.

Red Fescue As a Fairway Grass

Several golf clubs have had very unsatisfactory results with red fescue as a fairway grass even where all the conditions were favorable. The trouble is that during the first year or so this grass grows in small bunches, allowing weeds to occupy the spaces between the tufts. This result emphasizes the principle that a thick stand of grass is the best insurance against weeds. Even where such weeds as plantain and dandelion do not occupy the bare spaces between the tufts, the latter are very slow in spreading so as to make a complete turf. The conclusion forced by these results is that red fescue alone should never be used for fairways; and its use in a mixture is dubious. In practically every case where red fescue has been used, bluegrass and redtop would with little doubt have given better results. Where some bent seed has been included, it nearly always is helpful.

Trapping Moles

Several different methods of killing moles have been recommended which have doubtless met with success under certain conditions. These include the use of strychnine (THE BULLETIN, August, 1923, page 207, second paragraph), and paradichlorobenzene (THE BULLETIN, November, 1923, page 295), and stamping over the mole with the heel, or thrusting a sharp metal instrument into it, when its presence is indicated by the movement of the earth along the burrow (THE BULLETIN, February, 1922,