

Meeting of the Green Section Washington, D. C. July 21, 1921

During the Twenty-Fifth Open Golf Championship, which was played at the Columbia Country Club, Chevy Chase, Maryland, members of the Green Section present in Washington at the time held an informal meeting on the evening of July 21 in the grill-room of the Wardman Park Hotel. About 60 people were present. Prof. C. V. Piper, Chairman of the Green Committee of the U. S. Golf Association, presided.

In the opening address President Howard F. Whitney, of the U. S. Golf Association, presented a brief outline of the history of the U. S. Golf Association, and discussed in considerable detail the facts and factors that led up to the formation of the Green Section of the U. S. Golf Association. Mr. Whitney spoke in part, as follows:

“It appears from authentic records that Dr. W. S. Harban was the first golfer who went to the U. S. Department of Agriculture for technical assistance in regard to green turf problems. This was in 1906, when he first met Messrs. Piper and Oakley. Two years later when Mr. Charles B. MacDonald was building the National Links near Southampton, Long Island, he encountered such serious problems in attempting to grow satisfactory turf on the old sand dunes that he applied to the Department of Agriculture for help, which was of course accorded. In studying the difficult turf problems at the National Links, the Department scientists came to the realization that the existing knowledge on the subject was very far from adequate and that extensive experimental investigations were necessary. Unfortunately, no funds were available for the purpose; but in cooperation with many golf clubs a considerable amount of investigation was undertaken by the Department men. Much of the information thus garnered formed the basis for a long series of articles in the golf journals by Messrs. Piper and Oakley. The first appeared in January, 1913. These articles were immensely helpful, but in the meantime the needs of the golf clubs for information and advice were increased enormously. In the spring of 1915 the Executive Committee of the U. S. Golf Association waited on the then Secretary of Agriculture, Hon. David F. Houston, and requested additional help in solving the problems of greenkeeping. The committee pointed out that about \$10,000,000 a year was being spent on the establishment and maintenance of turf by golf clubs, and it was believed that through ignorance half of the money was wasted. As a result of the appeal the turf experiments were begun at Arlington, in the spring of 1916, the results of which having already been of the highest value. An indirect response of the committee's appeal was the publication in January, 1917, of *TURF FOR GOLF COURSES*, by Messrs. Piper and Oakley, a work that has been of enormous assistance.

“About the time when the Executive Committee waited on Secretary Houston the Committee was urged to establish some sort of information bureau and perhaps publish bulletins by which needed and timely assistance could be rendered to golf clubs. The Executive Committee considered the matter but did not deem the time auspicious for undertaking additional responsibilities. In 1920 Mr. E. J. Marshall, of the Inverness Club, Toledo, Ohio, became strongly impressed with the great need of doing something

to help out in the various turf problems confronting golf clubs. His earnest and dynamic personality influenced many prominent golf enthusiasts, in particular, Mr. Hugh I. Wilson, and through their efforts the Executive Committee formally established the Green Section November 20, 1920. The first number of THE BULLETIN OF THE GREEN SECTION was issued February 10, 1921. The eager welcome with which it was received leaves no doubt that this new undertaking was one for which there was urgent need. So far as I can discern this is the first time in the history of sport that its devotees have established a journal purely to promote its growth and welfare. We feel that it marks an important landmark in the progress of golf."

Following President Whitney, Mr. W. D. Vanderpool, Secretary of the Association, made a brief address mainly in reference to the ravages of the brown-patch disease on fine putting-green grasses. This problem he characterized as the most serious that confronts the golf courses of the United States. Mr. Vanderpool described how they had checked the severe spreading of the disease at the Morris County course, in New Jersey, by spraying with Bordeaux mixture and by applications of sand and charcoal. His observation led him to the conclusion that the disease was more virulent on greens which had not the advantage of a free circulation of air, such as those near woods or in hollows. On the suggestion of their greenkeeper they are now about to experiment with applications of flowers of sulphur at Morris County in an effort to check the disease. All present were urged to conduct similar experiments on their own initiative and report the results to the Green Committee of the U. S. Golf Association for the benefit of all concerned.

The Chairman of the Green Committee, Prof. C. V. Piper, then addressed the meeting as follows:

"It seems fitting that on this occasion there should be presented a brief report on the progress thus far made by the Green Section and of the more important problems with which it is confronted. The evident record of its activities are the seven numbers of THE BULLETIN already issued. In the future, as heretofore, THE BULLETIN must be the chief medium of a mutual educational campaign that must necessarily be a continuous one. We must not underestimate the amount of repetition necessary to get the ordinary man to understand and to act intelligently. The work of preparing THE BULLETIN involves much time, and the Service Bureau entails a very large and increasing correspondence. Many letters of warm approval of THE BULLETIN and the Service Bureau have been received and seem to confirm the Committee's ideas as to the great need of the help it is furnishing.

"There are numerous requests from golf clubs for visits to advise them in reference to their turf problems. At the present time such requests can not be fulfilled, excepting as a member of the Committee may chance to be in the place. It would be highly desirable if the Green Section could afford the services of one or more competent specialists to travel and to assist golf clubs in reference to turf matters, but this is out of the question until its revenues are far greater than at present.

"Besides the problems limited to grass turf there are many others that confront green committees. Among them are *golf machinery, greenkeepers, buildings, golf architecture, landscaping golf courses, cost of construction,*

golf course management methods, training greenkeepers, golf courses at minimum costs.

"There is a large amount of knowledge based on experience in the possession of most golf clubs. It is proposed that this information be gathered by appropriate questionnaires and the data tabulated for the benefit of all interested. In addition it is becoming evident that in certain types of machinery at least we shall need careful comparative tests to determine the relative merits of each make.

"Cornell University has established a 4-year course to train men to be superintendents of parks, golf courses, large private estates, and the like. It may in addition provide a 2-year course to train greenkeepers. This action was taken in response to a memorial from the Green Committee pointing out the great need that exists. There is reason to believe that some other colleges will establish similar courses of study.

"In this informal meeting there is opportunity to discuss many things of interest to all. Everyone is urged to present any matter of interest that pertains to greenkeeping. At the present moment we are all keenly aware of the menace of brown-patch, the greatest single problem with which greenkeeping is confronted. It may be well to include it in our discussion.

"Until the Green Section enrolls every golf club in the United States, it can not exert its greatest influence. It is recognized that many of the clubs are poor financially, but even so we believe it will be true economy for them to join the Green Section. Manifestly we must make every reasonable effort to secure the enrollment of each golf club, for every one of them has something to teach the rest of us as well as much to learn."

The speaker then invited those present to inspect, while in Washington, the experimental turf plots which have been established by the Department of Agriculture at Arlington, where, among other things, treatments of brown-patch are being conducted and efforts are being made to condition soil so that it will not grow white clover, which has a marked tendency to displace creeping bent in putting greens. He alluded also to experiments under way to circumvent the ravages of brown-patch by seeding on the greens an annual grass, like crab-grass but with finer leaves, which is killed with the first frost but thrives on the greens during the period that the bents and fescues have succumbed; five or six such annual grasses are being tested. In referring to crab-grass he called attention to the fact that it is not altogether a nuisance. Imagine the fairways at Columbia at this time with the crab-grass omitted, and you would see only bluegrass languishing during the dry, hot weather of summer. As regards the eradication of crab-grass, though it will not thrive in shade and is killed by frost as well as artificial refrigeration, no practical or economical methods have been devised for the application of such remedies; neither will it withstand salt, and with this in view the Department is testing certain grasses that will grow in strong alkali soils for use on putting greens where by applications of salt the alkali grasses will thrive but the crab-grass perish.

Alluding to the invaluable work of Mr. E. J. Marshall in the organization of the Green Section, the Chairman then introduced Mr. Marshall, who pointed out the great benefits that can be derived from the coupling together of the experience of the thousands of practical greenkeepers throughout the country with the technical knowledge rendered immediately available by the scientific men belonging to the Department of Agriculture who are whole-heartedly lending their support to the movement. The mediums

for the dissemination of this knowledge are THE BULLETIN OF THE GREEN SECTION OF THE U. S. GOLF ASSOCIATION and meetings of the delegates to the Green Section, such as this meeting. Of great value also are the district green sections and joint meetings of such district green sections, including visits of the delegates and greenkeepers to the various golf courses and discussing on the ground the many turf problems involved. Such district green sections have already been organized in Detroit, Philadelphia and New York. The good that can be accomplished in this way has already been demonstrated particularly in the case of the Detroit Green Section. Meetings of the delegates and greenkeepers should be held from time to time first at one golf course and then at another.

The meeting was then thrown open to general discussion.

Mr. Robert White, of the Wykagyl Country Club, New Rochelle, N. Y., gave his experience in combating brown-patch during the past season. The only remedy seems to be to spray with Bordeaux mixture. They conducted experiments on a small patch of putting green behind the clubhouse, leaving a small portion of the green untreated and the remainder was soaked with Bordeaux about twice a week during a period of several weeks. It seemed that thus the disease was held in check for quite a while, as the untreated green was injured badly; but after awhile the disease destroyed or badly injured the treated green also. As a result of this experience it became evident that Bordeaux simply checks the growth of the fungus and that spraying twice a week is not sufficient, as in the intervals the water washes the Bordeaux off of the grass leaves. He regards spraying with Bordeaux at least 90 per cent effective, but not 100 per cent. During the intervals between sprayings the grass grows to a certain extent and thus becomes unprotected by the Bordeaux. He considers, however, that when once the leaves are painted with copper sulphate the fungus can not find a foothold. This year he commenced spraying at Wykagyl about July 15, spraying 12 greens at a time and watering the others, so that for two nights out of the three the greens were sprayed and the third night watered. When the dry spell was ended he stopped watering and since then has been spraying every night. Ever since the hot spell started they have had brown-patch; the areas that are affected are tinted a slightly different shade of green but the injury is but very slight and scarcely detectable. They spray 18 greens with 100 gallons of Bordeaux mixture, and Mr. White estimates the cost at \$5.00 a day to spray. One man can spray all of the 18 greens in 5 hours. A Bordeaux nozzle is used so that a fine spray can be produced.

Mr. W. Baird, of the Upper Montclair Country Club, Upper Montclair, N. J., reported that their experience has been about the same as that stated by Mr. White.

Mr. Albert D. Locke, of the Brae-Burn Country Club, West Newton, Mass., raised the question as to whether the brown-patch was actually a disease or not. In answer Prof. Piper explained in some detail, showing how that in the typical form of the phenomenon one will frequently find on a putting green early in the morning circular patches at the edges of which is a white mold about one-quarter of an inch high. This mold is made up of threads of the fungus, and it is an easy matter to make a pure culture from these threads by picking up a small quantity of the fungus and growing it on agar or gelatin. This fungus was determined at the Department of Agriculture to be *Rhizoctonia solani*, a fungus which is known to attack a great number of plants. Until it was thus studied at the Depart-

ment it had not been known to attack a grass, but it is now found to attack a large variety of grasses. With this pure culture grass growing in a greenhouse has been inoculated, and the disease produced in typical form. There are, however, certain turf plants that it does not attack, such as white clover, crab-grass, bluegrass and Bermuda grass. Efforts are being made to find a strain of bent that is immune to the disease. Quite a number of selections were made and multiplied, and as a result some have been obtained which are more resistant than others. No strain has yet been found that seems to be truly immune. The strain on No. 9 at Columbia apparently has a certain degree of resistance. The ideal thing is to find a grass which will make a good putting surface and that is immune to the disease.

The use of Bordeaux powder, dusting it on the ground, has been recommended for brown-patch. No information is at hand as to whether this is any cheaper than spraying the mixture. Experiments with the powder are now being conducted at Arlington.

Mr. George Sargent, of the Scioto Country Club, Columbus, Ohio, asked if there is any record of brown-patch damaging fairways as it does greens. Prof. Piper stated that the left side of No. 14 fairway at Columbia was seeded with bent grass, and that it is now badly damaged with brown patch, while the bluegrass adjoining is not affected.

Mr. William Tucker, of New York City, expressed the belief that brown-patch is caused by poor sanitation of the soil, stating that where the subsoil is of a sandy texture, thus permitting free ingress of air, the trouble does not occur, and also that wherever the drainage is imperfect the disease will work more harm. From the discussion that followed it did not appear, however, that this rule held good in all cases. Dr. Harban cited instances where a clay subsoil withstood the disease better than a sandy subsoil. Captain Clark, of the Engineers Country Club, has not observed that the sandy subsoil at Lindo Beach Club, Long Island, helped to check brown-patch.

Mr. J. A. Roseman, of the Westmoreland Country Club, Glenview, Ill., reported that they had obtained good results in combating brown-patch from an application of a solution of 3 pounds of corrosive sublimate and 3 pounds of muriate of ammonia in 5 gallons of water, this solution then thinned down by incorporating it into 50 gallons of water. After the solution is applied the greens are spiked about an inch deep so that air can permeate the soil. Cottonseed meal is then applied at the rate of about 100 pounds to a green, together with about 100 pounds of pulverized lime. Only one application is required. The application will, however, turn the greens off-color temporarily.

Dr. Oakley reported that there was some hope of effective results being obtained from applications of copper stearate, as it adheres better than Bordeaux mixture. Experiments are under way along this line.

Mr. Connellan reported that no trouble had been experienced with brown-patch at Grosse Ile, Michigan. The new ground and the isolation of this course may be the explanation.

Mr. White announced that he had marked success with the planting of vegetative material of grasses during the past spring at New Rochelle; the rows have now spread to a width of 3 feet.

Mr. Baird made reference to the eradication of *Poa annua*, from putting greens. He stated that Mr. Locke, of California, had reported success with the use of salt. Prof. Piper cautioned against the application of salt

to putting greens, and in any case it must be used with extreme care; he mentioned, moreover, that at Washington he regarded *Poa annua* as an asset, calling attention to the fact that it made beautiful greens in the early spring and then afterwards gradually disappeared for the balance of the season.

Mr. Sargent suggested that the liberal use of peat and manure might have a tendency to facilitate the spread of brown-patch. Dr. T. J. McClenahan, of the Washington Golf and Country Club, Rosslyn, Va., reported that there are greens on his course which have never had applications of these materials and yet are badly ravaged by the disease.

The lack of sufficient rolling of turf was then mentioned. Prof. Piper called attention to the fact that although only a few years ago there was a tendency to roll too heavily, there has since been a reaction and the tendency now is probably to roll too lightly. Mr. James L. Taylor, of the Ekwanok Country Club, Manchester, Vermont, stated that they practice heavy rolling on their sandy soils, but light rolling on the clay soils. If heavy rolling is not done, the sandy soils swell up very unevenly. They also spike the turf to facilitate aeration. Prof. Piper stated that agronomic experiments indicate that where there is satisfactory drainage soils are sufficiently aerated for the growth of roots without recourse to spiking.

At the close of the meeting the Chairman announced that the regular meeting of the Green Section and its delegates would be held some time next winter, at the same time as the annual meeting of the U. S. Golf Association.

A buffet luncheon was served through the kindness of the Golf Association.

Improvising a Mowing Machine

W. C. FERGUSON, *Glen Echo Country Club, Normandy, Mo.*

Horse-drawn mowing machines only were used for mowing fairways around St. Louis until last fall. As Grounds Committee for Glen Echo Country Club, we felt the need of machinery which was more reliable during hot weather and which after a prolonged spell of rainy weather and intensive growth would be able to get the fairways in shape more rapidly. With this object in view we looked over the machines on the market which would accomplish this purpose. Our first consideration was to get a machine which would not damage the course by packing or by tearing up the turf on the hillside during wet weather. The next quality we desired in the machine was reliability, for any equipment which could not be depended upon to "stay on the job" would be worse than a nuisance. Some of our members during trips looked over equipment being used on other courses, and while some of these outfits appeared to be doing satisfactory work they were all of very recent origin and insufficiently tested. We therefore decided to try out a well-known commercial tractor which we judged furnished the element of reliability, believing that if the treads of the wheels could be modified so as not to injure the turf it would likely be the best proposition available. It had the advantage of allowing us to use our two sets of triplexes, and the entire outlay would not exceed more than one-half of what was asked by some concerns for a complete mowing