

How Cooperation Helps the Greenkeeper

By Ganson Depew

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I appreciate very much the gracious invitation extended to me as chairman of the Green Section of the United States Golf Association and member of the executive committee of the Association, to address the National Greenkeepers' Convention. I bring to you the cordial greetings and best wishes of our Association; and may I also say that it is a very great pleasure to meet you and speak on the subject which has been assigned to me, namely, cooperation.

It is a word which from the earliest days of civilization has meant progress and has enabled the world to attain the standards of living and achievement which are seen today in the most enlightened nations. Without cooperation we would be mere animals, fighting each other for our very existence, which in brief is the survival of the fittest. Almost all the evils with which man has been afflicted may be traced to a lack of cooperation, in which each individual has sought to promote his own interests and happiness at the expense, or at least independently, of others, and which has always resulted in wretchedness and ruin of all. Mankind has been slowly climbing toward the goal of achievement and success; poets have sung this, preachers have taught it, and men have fought for it. The movement of humanity under cooperation has always been onward. During the centuries which have passed since the formation of the earliest human associations for mutual interest and protection and for the fostering of higher ideals and the satisfying of human needs, mankind has groped as if in partial darkness and without a steady compass, but all the time getting closer together. The pleasure of the dance is largely due to the measured harmonies of motion, to the measured harmonies of sound. We find happiness in associating with those to whom we are attached, and in cooperating with others in those pursuits and aims in which we have a common interest. The benefits of cooperation are seen in associations for the common welfare, when without expectation of reward, except the consciousness of benefiting others, some enterprise is undertaken for the public good. In some of the higher forms it takes the name of patriotism and becomes that spirit of devotion to one's country of which history furnishes so many signal examples. It was this sentiment which ages ago animated Leonidas and his immortal Spartan band, inspiring these intrepid defenders of Thermopylae in sacrificing themselves to stay the march of Persia's invading host, and which led the charge of the Light Brigade into the jaws of death. It was exemplified in our Revolutionary War when our men and women won their independence from England's trained soldiers. It was seen in the dark days of our Civil War, when only the union of states saved our nation from dissolution. It was manifested in the defense of Verdun in the last Great War, when the French, standing like the Rock of Gibraltar, said, "They shall not pass"; and later when the combined efforts of the Allies ended the conflict. It is vital in the union of capital and labor in promoting the industrial progress and welfare of a country. And it operates in the widest kind of way in those nations of the world where only the consent of the governed holds millions of people together, and sometimes to band themselves with other nations in a common cause.

I have come to you today to speak especially of cooperation in a matter in which we are all vitally interested, namely, the better upkeep and more economical maintenance of golf courses. Its importance becomes evident when it is realized that golf in this country has more than 4,000 clubs and 2,000,000 players including patrons of municipal and public links, and nearly a billion dollars invested in courses, club houses, supplies, and implements of the game. Some years ago the United States Golf Association, in the interests and development of golf, for which purpose it was formed, decided to do what it could to promote the general betterment of playing conditions. This led to the establishment of its Green Section for experimental and research work. It had its inception in 1915, when we asked the United States Department of Agriculture for aid in solving turf problems. This was gladly and generously given in the way of funds,



Greenkeepers' Golf Show held at Columbus, Ohio, at the time of the Fifth Annual Convention and Golf Show of the National Association of Greenkeepers of America

grounds, and valuable advice. In 1921 the United States Golf Association Green Section was established under a cooperative agreement with the Department of Agriculture, which continued in charge for a time. In 1927, on account of the increasing work, the Green Section assumed direct responsibility in an enlargement of the activities and in finance. The Arlington Turf Garden, near Washington, was established by the Department of Agriculture, and later, with the funds of the United States Golf Association, the Mid West Turf Garden, near Chicago, came into existence. Still later the 24 coordinated experiment and demonstration turf gardens were located in various parts of the country. Only a whole-hearted cooperation between the Department of Agriculture and our Association made all of this possible. The United States Golf Association and the greenkeepers of America owe a debt of gratitude to Dr. R. A. Oakley and Dr. C. V. Piper, of the Department of Agriculture, for their invaluable assistance in organizing the Green Section and for their research work in the early days, and also to Dr. K. F. Kellerman and his staff in their continuance of the work. Can it be said that these Govern-

ment officials have not been animated by the highest motives and a sincere desire to help greenkeepers and golf clubs in promoting better turf conditions? Such an assertion could be made only by a short-sighted man. Likewise, can the motives of the officials of the United States Golf Association be impugned in working along the same lines?

For many years, as chairman of the Green Section, one of the past presidents of the Association, Wynant D. Vanderpool, has ably and unselfishly given his services, assisted by his efficient aids, Dr. John Monteith, Jr., and Kenneth Welton. That the Green Section will continue to receive the whole-hearted support of the United States Golf Association is shown in the address of Herbert H. Ramsay, who, when elected president of the Association in January last, after seven years of very active and loyal service on the executive committee, said, "There is no more important work affecting the game of golf than that being carried on by the Green Section."

Since the Green Section was established I fear there has been a feeling on the part of some greenkeepers that it was doing something to usurp their privileges and was treading on forbidden ground. Nothing is further from the truth. Its work, on the contrary, was intended to be a help to those who knew very little about the conditioning and proper maintenance of new golf courses continually springing up, and to give greenkeepers of experience valuable information obtained from experimental and research work. There was absolutely no thought or intention of forcing anything on greenkeepers or clubs. At a large expense the Green Section simply offers its advice and experimental work to anyone who wishes to use them or ignore them if it seems best. It does not interfere with greenkeepers in conducting their own experiments and making use of the results obtained. It has never dictated in the slightest degree to any greenkeeper or to any greenkeepers' association.

The cooperation from golf clubs and greenkeepers where our gardens are located has been most cordial, enabling the Green Section to obtain very valuable reports on the treatment and growth of the various grasses at widely separated points under different climatic conditions, which should be of great value to all greenkeepers, especially those employed in the particular districts where the gardens are located. Further cooperation has been seen in the numerous well-attended gatherings of golf club officials and greenkeepers held at the various gardens, where it has been possible to observe and discuss the way in which different grasses, fertilizers, and treatments have acted. At many of these meetings the members of the Green Section's staff have cooperated in attending to explain the work.

A concrete case of cordial cooperation has been the generous provision of laboratory and greenhouse facilities by the Botany Department of the University of Chicago, with special attention paid to a study of various methods of cutting grass and the influence of these methods on its growth and permanency, which brings into question the proper height for cutting on fairways and putting greens, as well as economy of upkeep, disease resistance, and other questions. It is hoped and expected that with this cooperation we can definitely settle some of the disputed questions and correct some of the faulty practices now in use on golf courses.

Another evidence of cooperation has been the invitations from the

Pennsylvania State College, the University of Wisconsin, and the Michigan State Agricultural College to take part in their programs of short courses of instruction for greenkeepers. Still further cooperation, assisted by funds from the Green Section, is the experimental turf work at the Pennsylvania State College and at the New Jersey Agricultural Experiment Station. It was the active cooperation of the New Jersey State Golf Association and the Greenkeepers' Association of New Jersey which induced the legislature of the state to appropriate \$5,000 annually for this work. Other states and universities are now taking up turf problems.

The cooperation between the Green Section and the member clubs of the United States Golf Association in the way of correspondence and service is one of our greatest activities. Not only are soil and seed samples examined and reports rendered, but the Green Section staff visits on request a large number of golf courses to give advice to clubs and greenkeepers on the turf problems submitted. During the past year many clubs in as many as 24 states were visited, and this number would have been considerably increased had the personnel of the staff been larger.

In the publication of the Bulletin of the United States Golf Association Green Section the spirit of cooperation is again in evidence. Unfortunately, on account of illness in the editorial staff and important work in other fields, the Bulletin has been somewhat delayed in its issuance, but it is expected that in the future it will be promptly printed and circulated.

It is interesting to know that in February, 1929, a Board of Greenkeeping Research was established for the scientific investigation of greenkeeping problems by a Joint Advisory Committee of the Golf Unions of England, Scotland, Ireland, and Wales. Its director, R. B. Dawson, acknowledging my congratulations in the issue of their most attractive journal, said, "Like yourselves we are finding experimental work of increasing value not only in advising clubs as to treatments but in adding to the general knowledge of turf culture." Thus is now seen in Europe further cooperation in the general work and problems in which we are all interested.

In further cooperation are the activities of your splendid National Association of Greenkeepers of America, organized primarily, as was the United States Golf Association Green Section, for the betterment of turf conditions. You are very fortunate in still having at your head the founder of your Association, a man of vision and experience who has given his time and effort to the interests of greenkeeping, a man commanding the respect and affection of every one who knows him—John Morley. In still further cooperation is the publication of your interesting magazine *The National Greenkeeper*, with its instructive articles on turf maintenance and ably edited by Robert E. Power. To them and others in your organization, as well as to state and local associations throughout the country, the greenkeepers and the golf clubs are indebted for valuable advice and suggestions in the betterment of golf courses. May I take this opportunity to congratulate the committee in charge of the splendid golf shows you have at your conventions, which have added much to their interest and pleasure, and for which in recent years your hard-working chairman, Fred J. Burkhardt, is responsible?

The comprehensive nature of the work of the Green Section can perhaps be better understood when I tell you that our Association now expends annually nearly \$42,000, which is \$9,000 more than is received in dues from member clubs. It realizes that golf is a game of pleasure and that a golf club, to be successful and self-supporting, must have an adequate membership, which can not easily be had if links are not kept in first-class condition. An increase in the number of clubs means, of course, more employment for greenkeepers. If a greenkeeper values his job, he should be glad, for self-interest alone, to receive the reports of the Green Section; and if, in availing himself of its experiments and research, he can give his club a finer golf course and save money in its maintenance, he can command a higher salary. Greenkeeping today is a profession requiring technical and scientific knowledge.

The work of the Green Section is still in its infancy. It does not claim immunity from error or that its advice is infallible. But it does feel that progress has been made and valuable information obtained, which have greatly helped the golf clubs in the way of better links and reduced expense of maintenance. There is still, as you all know, much to be learned, especially in leaf-spot disease, turf-insect control, and fairway improvement; and as we learn from continued experiments and research, the great waste of money now going on will be materially lessened in the knowledge of the best methods to follow.

May I briefly state some of our future problems, which we hope to work on if further funds are made available? Insects continue to be the greatest source of trouble on many golf courses, such as the mole cricket in the South, ants, grubs, cutworms, army worms, grass webworms, and many others; and until adequate information on their control is obtained through research and experimental work large sums of money will continue to be spent each year in the war against insects, but without results.

Most of our experimental work has been in the preparation and treatment of putting greens; but fairways are as important as putting greens, and few clubs have perfect fairways. This brings to the front problems which in most cases have been unsolved, such as the following: best methods of preparing, fertilizing, and seeding various soils in different climates; time of application of fertilizers and their rotation; best use of water, particularly in connection with the sprinkling systems which most clubs are establishing; best height of cutting; control of weeds, particularly clover, which is encouraged to spread by the application of an excess of water; renovation of poor, weedy turf; perpetuation of good Bermuda turf; treatment of brown-patch; methods best suited for effecting the recovery of turf from the deplorable conditions resulting from the drought of the summer of 1930. Systematic study and experimentation is necessary to obtain information which will enable one to solve and successfully meet these problems. In all of these matters the greenkeepers, working in cooperation with the Green Section, can be of the greatest assistance, and through our combined efforts success will be attained. The Green Section not only seeks your help and experience, but is glad to make use of them in its own field of activity. Golf can not get along without greenkeepers. Few realize the time and effort the greenkeeper

puts in from early morning until late at night to create better turf conditions. But there is this difference between the Green Section and yourselves, namely, that golf clubs have not the necessary funds to enable greenkeepers to conduct intelligent and scientific experiments and research on a scale as large as that on which the Green Section proceeds, and in addition they are unable to give the results the same wide publicity that the Green Section does. We appreciate the value of your work and hope you in turn appreciate ours and that you feel, in fairness and good will, that the sole desire of the Green Section and of the United States Department of Agriculture is to help you as best they can.

Only in a hearty and cordial cooperation between us all can the best results be obtained. We are all interested in producing the finest fairways and putting greens possible. If this is accomplished, the existence and cost of the Green Section will have been justified, as will also your Association of greenkeepers and others, and you will have a just pride in the golf links of which you have charge. An honest difference of opinion will of course prevail at times as to the best methods to pursue. But in any event let us unselfishly work together without jealousy or friction, in the spirit of the utmost harmony, to make golf, which we all love, the most enjoyable of games, with better conditions of turf at a minimum expense as our ultimate goal. In brief, let the fullest cooperation be our watchword for the future.

Ammoniating Superphosphate

Demonstration of the cheap process of adding ammonia to superphosphate, a new development which is proving of practical benefit to farmers and the fertilizer industry, was the feature of an exhibit by the Bureau of Chemistry and Soils at the annual meeting of the National Fertilizer Association held June 8 to 10, 1931, at White Sulphur Springs, W. Va. The small-scale apparatus, constructed in the Fertilizer and Fixed Nitrogen Research unit of the bureau, carried on the process of ammoniating superphosphate in the main lobby of the Greenbrier Hotel and drew groups of visiting chemists and executives of fertilizer companies in whose business this process has been one of the most important and revolutionary of recent developments.

In the miniature apparatus which was shown at the exhibit, anhydrous ammonia, contained in a small steel cylinder under a pressure of 150 pounds, is released in gaseous form at regular intervals and in small amounts, to be absorbed by the superphosphate which is visible in a revolving glass drum. A manometer filled with colored liquid was so arranged as to show the pressure of the ammonia released from the cylinder and the decrease of pressure upon its release for absorption by superphosphate. Commercially the ammoniation of superphosphate is carried out in one step rather than gradually, as shown in the apparatus, sufficient ammonia being added to the superphosphate to correspond to $1\frac{1}{2}$ to 2 per cent of the superphosphate. The availability to crops of the phosphoric acid in superphosphates, or superphosphate mixtures, when higher percentages of ammonia are used is under investigation by the Bureau of Chemistry and Soils, and is a development of much interest to the fertilizer industry.