moment he has holed out on the sixteenth green, although the trouble, such as it is, is over 400 yards away. In this connection let it be insisted that no golf course architect knows his business unless he realizes that his primary duty is to mentally excite

The average penal course has anything between a hundred and two hundred bunkers. In my opinion sixty bunkers at the most are sufficient for any golf course.

During the twenty years in which I have been laying out golf courses, I have never ceased to remind myself that, while I have not great affection for the scratch golfer, I wish to serve the interests of the lower handicap man, who after all is the mainstay of most golf clubs.

ESSENTIALS OF LAYOUT DESCRIBED

It is, after all, a perfectly simple matter to lay out a course which is a searching and fair test for the "Tiger," and at the same time provides a happy hunting ground for the long handicap player. As briefly as possible, I will endeavor to explain how this double object is achieved. There are only three general rules to be observed, which may be summarized as follows:

(1) The center of the fairway must never—except perhaps once in the round, for the sake of variety—be the true line to the hole at two-shotters and three-shotters. Compare the positions in Diagrams I and II.

The fairway must be so orientated to the tee as immediately to present the "Tiger" with a problem. On one side or the other, the rough should live with the ideal tee shot from the moment the ball is struck until it comes to rest. This well illustrated in Diagram II.

If, on the other hand, the hole is planned as in Diagram I, there is a wide expanse of fairway on both sides of the shot during the greater part of its flight. In other words, if the ideal line to the hole be the center of a fairway, it is the line on both sides of which there is a wide margin for error, and this is manifestly ridiculous.

(2) Eliminate, as far as possible, buoys and light-houses in the form of fairway bunkers, and on no account let it be obvious at a glance how the hole should be played. Leave a wide
expanse of fairway innocent of bunkers on the side which is not the true line to the hole.

(3) Orientate the green properly for the second shot, and place with the greatest care the wing hazards guarding the approach. This is well illustrated in Diagram II. Here, the orientation and shape of the green is such that it will only receive and hold a ball that is played from the extreme left of the fairway.

These features are no hardship to the long handicap player who, if he is prudent, should not try to reach, or expect to reach, a hole of this length in two shots.

HOW ENGLISH AND AMERICAN COURSES DIFFER

I have said that the main difference in design between courses in America and Great Britain lies in the fact that most American courses are penal in character, while all our good courses are strategic. There are also two other points of difference. In England we place our greens, as far as possible, just beyond the ground that has folds in it. Alternatively, we manufacture these folds short of our greens where Nature has not provided them. This is the type of terrain which is characteristic of the Old Course at St. Andrews, and has helped to make it the great course that it is.

The second point of difference is that we tilt our greens more than is the custom in America—a right-to-left or left-to-right tilt as the case may be. Not infrequently the tilt is from the entrance to the back of a green—that is to say, the green falls away from the player, a feature that goes to make St. Andrews the most interesting, the most exacting, the most exasperating and the most enthralling test of golf in the world.

I know of but one great golf course that is both strategic and penal in character. That course is in America, and its name is Pine Valley. For sheer beauty and all round excellence it has, in my judgment, no rival among inland golf courses.
Chapter X—Greenkeeping in 1931 and Probably 1932

"The Battle of 1931" or a similar title has attracted those interested in golf course management to several well written articles on the turf "depression" of 1931. These articles together with the replies to Colonel John Morley's questionnaire, have dealt with the difficulties of the greenkeeper, or have related experiences.

The weather, easily blamed of course, was the greatest offender to the growing of healthy turf and the greenkeepers' peace of mind. Poor drainage, brown patch, sod webworm, over-fertilizing, and "scald" each has a group proclaiming it as the champion "evil one." Truly, greenkeepers have had a trying summer, but they have had a job, which fact should compensate in part for their troubles.

The published articles and verbal reports are valuable to read and to be heard. If taken singly or all in one dose, they cause much confusion in the mind of the recipient. (This article may also add to the confusion). The experiences related are contradictory, in whole or in part, and the conditions are so different that when they are discounted with the experiences, still more confusion exists.

To those of us who are sincerely interested in golf course maintenance and have studied the practice of turf culture with an unselfish and open mind, the confusion of ideas exhibited by greenkeepers and Green-chairmen makes us want to shout "I told you so."

No Set Rules for Course Maintenance

Golf courses cannot be maintained by set rules of cultural practices. Every golf course, and each tee, fairgreen, rough, and green on every golf course, presents an individual problem, which must be solved by the greenkeeper. This important fact has been the text of the lesson which nature has so forcibly demonstrated. Green committees, Green chairmen, and greenkeepers, to be successful in 1932 must have this lesson well learned.

All kinds of queer cures, and the well-known remedies have affected wonderful results. New theories are being propounded because of these splendid results. When evaluating these results let us remember that many cures were grasped at as a drowning man grasps at any floating object, and that so many cures were tried during the summer that good results, if any, could not be rightfully credited to any one of the numerous cures.

Normal Program for 1932

The successful greenkeeper in 1932 will not concentrate upon lime, for example, because lime made the grass green in 1931. (Shades of ammonium sulphate). He will practice a conservative and normal fertilizing program. There has been altogether too much of "try this," "try that," without reason or excuse. Uncertainty to the point of confusion is a sure sign of weakness of purpose.

1931 has found many a good greenkeeper handicapped by a confused chairman or Green committee. And, there are some clubs that have suffered the ignominy of having poor greens, because of the confused greenkeeper.

If the greenkeepers and Green chairmen were given hard lessons to learn, what about the club? Have the experiences of 1931 any value, and do they offer a forecast for 1932?
The 1931 golf club budgets were the first to be reduced because of the business depression; few clubs felt any financial strain in 1930. It is interesting to note the varying effect a reduced budget has on the different clubs. Whatever the effect, a lesson has been taught, and we hope, well learned.

THE EFFECT OF REDUCED BUDGETS

Reduced budgets have brought about a closer checking of the greenkeepers' expenditures by the chairmen and the finance committees. This checking has resulted in the failure to approve the expenditures for necessary equipment, supplies, or labor. "Necessary," merely to be economical, because no purchasing meant a lower standard of maintenance, or loss in actual cash. Such checking and false economy has won praise for the chairman who has kept below his budget, but condemnation for the greenkeeper because of inferior turf, and has mortgaged the budget on standard for 1932.

Some clubs maintained (?) their course in 1931 with only workmen enough to perform the routine work. Yet they paid the greenkeeper the same salary they did in 1930. Poor business management either way you look at it. Golf courses cannot be maintained to a given standard by routine work, and if all that is required is routine work, why pay a greenkeeper when a straw boss would cost less and be more in keeping with the job?

No thinking individual feels that greenkeepers are overpaid, but the mind that orders nothing but routine work and proceeds to boss it with a high overhead, is certainly inconsistent. The wise clubs in 1932 will not keep their courses by routine only. The greenkeeper will earn his salary as a boss, a superintendent, and for his ability to grow good turf. The club continuing with the routine work will find itself by the fall of 1932, with a physically poor golfing plant.

One splendid lesson has been forced upon the never satisfied clubs. Without funds to make alterations, the old course had to be played as is, and with few exceptions the members are pleased, even happy, not to have to play over "ground under preparation" or "green out of play use temporary." Because there were no alterations to distract the greenkeepers' attention or to which to divert their funds, the old course was in the "best shape it ever had been." That club (and others) if wise, will in 1932 let well enough alone.

GOLF IS CLUB'S GREATEST ASSET

1931 has called the attention to a number of clubs that golfing is essential to the financial health, even life, of the club. Men do not give up golf when they resign from private clubs, they play public and semi-public courses. Many of these latter courses offer excellent golfing, under acceptable conditions, and for the $100 membership golfer, at a very low cost.

The 1932 golf clubs that have a low standard of course maintenance, and high membership dues, will lose members to the freedom and variety of public courses. As home town merchants must give reasonable satisfaction to hold their trade from going to other communities, so must the home club give reasonable playing conditions to hold its membership.

Many of the clubs because of the trying conditions of 1931 have learned the true worth of their greenkeeper, and the Green committee. To know such a value is worth all of the summer’s experiences, whether the value is high or low. In 1932 there will be a better disposition of the greenkeeping forces, fewer misfits will be in evidence, and real greenkeepers will become safely established.

EXPERTS AGGRAVATE COURSE DIFFICULTIES

Everyone who is interested should have learned by the experiences of 1931 that "experts" are of a variable degree of use. The writer is firmly convinced that "experts" have greatly aggravated the difficulties of 1931. In fact in some instances they are responsible for much of the trouble.

1931 saw the start of "racketeering" in golf course maintenance. It was to be expected, because of the great popularity of the game, so that the opportunity for personal gain by racketeering methods is great. Much could be written about "experts" and expert advice. In fact an hours' lecture could be delivered.

In 1932 this so-called "racketeering" will either gain a tremendous momentum or be strangled to its death. Which it is, depends upon whether the clubs' officials and greenkeepers have been seeing or merely looking.

To this conservative old New Englander, who has not underrated the difficulties of 1931, and is far from being alarmed over expected troubles in 1932, the past season has been one that has fully
exposed the structure of golf turf maintenance and golf club management. The sound timbers have held, and the weak ones have broken, and in spite of all, golf as a game has increased in popularity. 1931 has been a "blessing in disguise." The real greenkeeper or well-managed club has nothing to fear for the future, but nature and green grass must help the others.

---

Brown Patch for First Time

By C. L. BLUETT, Greenkeeper,
Glen Mawr Golf and Country Club,
Toronto, Canada

In response to Col. John Morley's questionnaire, I am glad to relate for the benefit of others interested, the experiences I have had during the year 1931.

1.—Did your turf become infested with webworm? If so, what treatment did you apply, and what results if any did you observe?

We were fortunate in not finding it necessary to combat webworm.

2.—Was your turf affected with large or small brown patch? If not and you did not use any mercury compounds as a preventative, what methods did you use in the way of fertilization?

Yes. Four of our greens became badly affected with brown patch. To combat this I used mercury compound, which proved an effective cure.

This is the first time during my experience as a greenkeeper that brown patch has affected my greens.

I am of the opinion that climatic conditions are a primary factor in the development of this disease of the turf.

3.—Do you omit using organic fertilizers during the summer months?

4.—Do you think that over-feeding or over-watering hastens fungus diseases?

I do not think that watering has as much to do with the disease as organic fertilizers. This conclusion was reached because of the following experience.

We have 18 greens on a course recently constructed. On the 10 holes in play this spring, 4 greens were affected with brown patch. As stated above mercury compound successfully cured this.

On these same 10 greens I used organic fertilizer and found that it grew a weak surface turf which is subject to fungus disease.

On the remaining 8 greens, I did not use organic fertilizers. In the early spring these 8 greens were top-dressed with a preparation of sulphate of ammonia, 4 lbs. per 1000 square feet, mixed with about 2 yards of compost consisting of 33 1/3% sharp sand, loam and manure.

These greens were treated twice during the summer months with a commercial preparation of 4-12-6, and were watered regularly during the daytime.

Throughout the summer these 8 greens showed a heavy matted turf with roots descending from 2 to 3 inches and remained in a very healthy condition.

5.—Have you observed various diseases on greens that have been dried out for the lack of water and appear to receive plenty of air?

No.
Executive Committee Meets In Boston

By JOHN QUAILL, Secretary

The regular Fall meeting of the Executive Committee of the National Association of Greenkeepers of America was held in Boston, Mass., on Monday, Tuesday and Wednesday, November 16-17-18. The entire committee consisting of Messrs. Morley, Quaill, Burkhardt, MacGregor, Sansom, Hayes, Davies, Anderson, and Walter Knowles, chairman of the Finance Committee, were present and much work was accomplished.

Monday morning was spent in executive session when reports of officers and various committees were presented. All reports indicated that the association is progressing very satisfactorily and a good year is in sight for us.

On Monday afternoon a joint meeting was held with the New England Greenkeepers’ Club in Horticulture Hall and all the officers were called on for a short talk. President Morley gave one of his usual fine talks and was warmly received. After talks by the members of the New England Association the meeting was thrown open for discussion on topics of extreme interest to greenkeepers and a very pleasant time was enjoyed by all.

NEW ENGLAND GREENKEEPERS ENTERTAIN

In the evening the New England Greenkeepers’ Club was host to the Executive Committee at a dinner at the Boston Athletic Association. The evening was spent in informal style and every one had to say something. At this meeting, President Morley gave one of the best addresses of his life and everyone was moved by his eloquence.

John Shanahan of Brae Burn was persuaded to say a few words and he likewise was applauded very generously. George Davies kept the crowd in an uproar by his ready wit and humor. Good fellowship prevailed and a very enjoyable evening had to draw to a close much to the regret of all present.

The Executive Committee was received by C. H. Cross, chairman golf committee, Unicorn Country Club, and the following members of the New England Greenkeepers’ Club, Carl Treat, Woodland Golf Club; Marston Burnett, Albermarle Golf Club; Frank H. Wilson, Charles River C. C.; Guy C. West, Fall River C. C.; Wallace Peckham, Sachuest Golf Club; Robert Mitchell, Kernwood Golf Club; James Sullivan, Waltham C. C.; Tom Fahey, Winchester C. C.; Ted Swanson, Bear Hill Golf Club; John Shanahan, Brae Burn C. C.; Howard Farrant, The Country Club; James McCormack, Unicorn C. C.; and Charles W. Parker, Belmont Spring C. C.

Tuesday morning was also given over to business and the good and welfare of the association was discussed at length. The treasurer was authorized to purchase United States Liberty Bonds with excess funds which were idle. The Committee on Finance approved this move as one of the best that has ever taken place in the association.

Tuesday afternoon was taken up by a tour of several courses near Boston. After visits to Brookline, Brae Burn, Woodland, Charles River, Winchester and Unicorn, we took leave of the New England greenkeepers and again went into session and held an open discussion for the welfare of the Association.

BY-LAWS TO BE REVISED

Wednesday was spent in session and plans for the future were discussed at great length. The special committee to revise the by-laws was instructed to make further changes and revisions as discussed and present them at the annual meeting in January at New York. A tentative program for the conference was presented and the speakers approved subject to their acceptance. The following committees were named to serve at the annual meeting and the plans for the show were discussed at great length.

December, 1931
N.A.G.A. Committees

Committee on Finance
Walter E. Knowles, Chairman, Cleveland, Ohio
John Pirie, Chappaqua, New York
Dennis Crowley, Boston, Mass.
Roy C. Smith, Indianapolis, Ind.
Elmer F. Affeldt, Roslyn, L. I., New York

Committee on National Greenkeeper
Alex Binnie, Chairman, Chicago
H. Hawkins, Port Credit, Ontario, Canada
Frank Ermer, Cleveland, Ohio
Fred W. Sherwood, Birmingham, Mich.
Hugh C. Moore, St. Simon’s Island, Georgia
L. J. Feser, Wayzata, Minn.
Walter C. Reed, Clayton, Missouri

Committee on Appeals and Grievances
Hugh Luke, Chairman, Garden City, N. Y.
James Muirden, Cincinnati, Ohio
J. O. Campbell, Weathersfield, Conn.
Michael J. O’Grady, North Dartmouth, Mass.
Richard Watson, Chevy Chase, Washington, D. C.
Frank A. Hamm, Weston, Ontario
Thomas H. Jones, Yorktown, Virginia

Committee on Benevolence
John MacGregor, Chairman, Wheaton, Ill.
R. E. Farmer, Milwaukee, Wisconsin
Thos. E. Dougherty, Media, Pa.
Ralph Thomas, Waltham, Mass.
M. W. Lawrence, New Orleans, La.
Hiram F. Godwin, Detroit, Mich.
W. S. Mayo, San Francisco, Calif.

Committee on Law
C. E. Tregillus, Chairman, Chicago
A. E. Lundstrom, Huntington, L. I., New York
Edward Fogarty, Westfield, N. J.
Oscar Johnson, Omaha, Nebraska
Chas. A. Robinson, Lake Tarleton Pike, New Hamp.
W. A. Bostic, Asheville, North Carolina
Arthur J. Jensen, Fargo, North Dakota

Committee on Permanent Organization
M. E. Farnham, Chairman, Philadelphia, Pa.
Wm. E. Perkins, New Haven, Conn.
A. L. Brandon, Saint Charles, Ill.
Carl A. Bretzloff, Indianapolis, Ind.
Frederick Dale, Manchester, Mass.
Herbert E. Shave, Detroit, Mich.
Grange Alves, Cleveland, Ohio

All members of the committee expressed themselves as of the opinion that this meeting accomplished more than any other meeting ever held by the Executive Board. As the association grows, the duties of the Committee grow heavier and all were pleased with the amount of work done at this meeting.

The New England Greenkeepers were very glad the meeting was held in their territory and they all expect to be able to come to New York for the Convention and Show.

For Winter Reading—

The Lawn
BY LAWRENCE S. DICKINSON
Ass’t. Professor of Horticulture
Massachusetts State College

Defines and Describes the Culture of Turf in Park, Golfing and Home areas.

CONTENTS
The General View          Controlling Pests
Molding the Lawn          General Maintenance
Preparation of the Seed Bed Lawn Mowers
Seed Selection and Planting Park Turf
Important Turf Plants Cemetery Turf
Planting a lawn with Stolons Useful Tables
Fertilizing

Illustrated
128 pages—Price $1.25 postpaid to any address

The National Greenkeeper
405 Caxton Bldg. Cleveland, Ohio
Noted Ornamental Trees

By L. C. BREED

EDITOR'S NOTE:—With a view to rendering their premises attractive, some golf clubs have caused several notable trees to be planted near their clubhouses. In view of the protection that certain trees provide for highways, it is made a practice to plant some of them along the highways. In this way the piling up of snow on the road bed is prevented. They are also used in orchards to protect young fruit trees from injury during high winds.

There is also a steady increase in the use of ornamental trees on private estates, schools, colleges, public parks and cemetery grounds.

It will be found that if various trees are examined carefully some of them have attractive features in regard to which many persons are not aware. For this reason we decided to publish particulars about some remarkable ornamental trees. The first chapter in the September issue was about the Beech.

NO. 2—THE HORSE CHESTNUT

The horse-chestnut has many qualities which make it desirable for ornamental planting. It grows rapidly and sturdily, has few insect enemies, gives a dense shade, and has at all seasons a somewhat conventional beauty that is attractive to people in general.

Even in winter the straight trunks shoot up from the middle of the tree with an orderly arrangement of the branches and twigs and large conical buds, with their glistening brown hues are sure to attract attention. In early spring the buds feeling the warmth in the air glisten in the sunlight and later the resinous coats drop off and the leaves come out.

The flowers of the horse-chestnut are superb and a fine tree in full bloom is a magnificent sight.

Standing alone and allowed to attain its natural shape it becomes a stately tree and often reaches the height of one hundred feet. The trunk is erect and the branches come out with such regularity that it develops a superb cone-like head. The branches almost invariably take the compound curve, upward from the trunk, downward as the branches lengthen and upward at the tip.

Under ordinary conditions the horse-chestnut is a long-lived tree. It is closely allied to the sycamore and the maple and is a member of the same family. It is a native of Greece and began to be cultivated throughout Europe in the seventeenth century. From the earliest settlement of North America by Europeans it has been planted for shade and ornament.

NO. 3—THE LOMBARDY POPLAR

The Lombardy poplar was the first ornamental tree introduced into the United States. One of the features of this tree consists in making a narrow leafy wall sooner and more satisfactorily than any other tree, and it can grow by the roadside and not shade the street. It is the only deciduous tree whose branches hug the stem and resulting from that is its peculiar spiry shape which is individual. When the wind blows, unlike other trees that wave in parts, it waves in one simple sweep from top to bottom.

Besides the vertical habit of growth which distinguishes it from all others, the leaf also is characteristic. It is very broad for its length. The buds of the Lombardy poplar are small and vertically pointed, the flower-buds developing very early in the spring into pollen-bearing catkins, the leaf-buds pushing out a little later their young leaves of a rich yellow-green color.

The Lombardy poplar attains usually a height of about sixty feet, but frequently reaches over one hundred feet and is a long-lived tree. It long has been very popular in England and up to one hundred years ago was considered to be preferable for ornamental purposes to any other tree. It is common in the streets and squares of towns in all parts of that country.

NO. 4—THE LARCH

The larch which is extensively planted as an ornamental tree is not the American species but the European. It is justly considered as one of the favorite conifers for it is a beautiful tree, having a grace of outline, with pendant branchlets clothed through the summer with delicate tufts of slender leaves of a green which varies from the lightest tints in early spring to the deep green of summer and the yellow green of autumn.
Even after the leaves have fallen the tree has a certain grace that renders it attractive through the winter, the dropping branches being studded along their sides by short projections, from the ends of which the leaves arise, as well as here and there by the interesting upright cones of a form and size much more attractive than the cones of the American larch.

The larch is a quick grower. Its root even from the beginning, divides and spreads and this gives the tree a strong foothold. The stem towers upward with stately magnificence, straight, tall and tapering. Its branches, horizontal above and drooping lower down, being secondary to it in proportion. The outline of the tree soon becomes a pyramid of lightness and grace and is nearly full grown at forty years of age.

Regarding the conditions of the blossoming of the larch, investigators find along the left-hand side of the twig numerous fascicles of leaves just beginning to push out and at the bottom on the same side of the twig there is a cluster of the pollen-bearing flowers. On the opposite side the most conspicuous features are the two large clusters of seed-bearing blossoms arising from a nest of developing leaves. By comparing these two sets of flowers one can readily see that the former will develop into cones like the latter.

The larch is popular in Great Britain owing to its attractive appearance, which is different from that of any other tree seen there. It attains a height of sixty to one hundred feet, and sometimes an age of two hundred years.
Pacific Coast Gossip

By ARTHUR LANGTON

The mid-winter tournament situation in and around Los Angeles might be termed one of suspense as far as several greenkeepers are concerned.

The venue of the Los Angeles Open has not been determined at the present writing and the tournament is to be played early in January of next year. The Wilshire, Riviera, Hillcrest, and Los Angeles Country clubs seem to be the most likely possibilities in the eyes of the Los Angeles Junior Chamber of Commerce which stands sponsor for the annual event.

The courses at these clubs are of championship design; the care given to greens, tees, and fairways is excellent; the grounds are possessed of facilities for handling large crowds; and each is securely fenced so as to insure the collection of an entrance fee from all the spectators.

Two considerations are delaying the final selection of the tournament place. One is that the golf officials are unwilling to give would-be prize winners too good an opportunity to become accustomed to the course where the match is to be played. The other is that the clubs themselves are unwilling to surrender their courses to the playing of the event.

The objections are based upon the sad experience of clubs which have held the tourney in the past. It has never been a money-making proposition; much damage has been done to the grounds by careless galleries; and the regular members have been unable to play their daily game.

Furthermore the cash usually is won by some player who goes somewhere else to spend it. As one greenkeeper expressed the situation, "The club that weakens first will be the one to get the tournament."

The delay, however, is hard on the course superintendent who finally is assigned the task of getting his course ready for the affair. What easily could be a two-month job will have to be crammed into about two weeks.

The Northwest Greenkeepers' Association recently elected the following officers at their annual meeting: Fred Starrett, president; Hans Moen, Broadmoor, vice-president; and Alex Boyd, Rainier, secretary.

The greenkeepers of Southern California have decided to buy a compound microscope as their first piece of laboratory equipment and with it they intend to look into some of the matters that have been vexing them for some time.

It is astonishing to what ends some Coast golf courses have gone in order to stave off financial disaster and yet keep on running.

It is interesting to note, however, that one course in Southern California which has kept up to practically a pre-depression schedule as far as expenditure is concerned, asserts that it has lost less members than any other club in the district because of economic conditions.

Canadian News

By J. H. EVANS, Golf Editor
Toronto Globe

The qualities of a suitable turf for golf fairways and putting surfaces provided the subject of discussion at a recent meeting of the Empire Club of Toronto where the New Zealand Trade Commissioner, seeking an outlet for the products of his Dominion, urged the Canadian golfer to insist on Chewings fescue for fairway and green. The Trade Commissioner attended the meeting to solicit business for his country and included the popular seed among the commodities which Canada might import in larger quantities.

The question of trade between Canada and New Zealand has become a topic of more than usual interest due to the decision of the newly elected government in Canada to place a tariff on butter from New Zealand which in return retaliated with measures affecting the Canadian automobile industry. Shut out from the Canadian market, the New Zealand farmer manufactured cheese for the British Isles and struck another blow at the Canadian dairy industry. As a consequence, the New Zealand Trade Commissioners proposal was followed keenly and secured some support from those present, the majority of them golfers.

A Canadian merchant paid a compliment to the high qualities of Chewings fescue which was used for lawns, parks and golf courses in New Zealand and he said, it had been found to be the best in the world for Canadian fairways because it was close growing and had the special virtue of holding the golf ball up from the ground. During the discussion it was discovered that New Zealand produced over two and three quarter million