Better Turf on the Way in Southern California

By CHARLES K. HALLOWELL

Editor's Note: Charles K. Hallowell was granted a leave of absence from his Agricultural Extension work in Philadelphia the first six months in 1950. During March, April and May he was associated with the College of Agriculture of the University of California at Los Angeles. This article relates some of his observations about turf in Southern California.

Hallowell will tell in the next issue of GOLFDOM about his visits to golf courses in the other sections of the United States.

A variety of good turf grasses, soil that shows much compaction, and great enthusiasm about having better turf on the part of those responsible for golf courses, characterizes the turf situation in Southern California. When one thinks of golf in California it is advisable to visualize that there are three distinct districts. They are the Northern California section, which includes San Francisco and is often referred to as the Bay Area, then the Monterey Peninsula with such famous courses as Pebble Beach and Cypress Point. The third area is Southern California which includes that portion of the state from Santa Maria to San Diego along the coast and inland from Bakersfield to Mexico.

One is impressed with the combination of warm and cool season grasses found on all courses in Southern California. It is only where the temperatures go above 90° many days that the cool season grasses are sparse. This combination of grasses insures good "lies" of the ball on the fairway and is what those in the Eastern United States would like on their courses. This desire is especially true in the area along the eastern seaboard from New York City south to Richmond, Virginia, where crabgrass thrives in the summer months.

Bents, bluegrasses, fescues, red top and ryegrasses are all found in the fairways growing naturally with bermuda grass. The latter goes off color each December when it takes a rest and when lower temperatures retard it but by March new growth starts. However, its intensive growing season is July, August and September. Natural green color of turf may be maintained throughout the entire year by timely and proper applications of nitrogen fertilizer prior to the time when the bermuda grass loses its color.
There is a lack of information on the fertilization of the fairway grasses as to the amount to use and the time to apply. There is evidence that much fundamental information is available in the College of Agriculture of the University of California about fertilizing grasses. With those fundamental facts a series of fertilizer trials on fairways on a number of golf courses would soon produce data that would be helpful to all golf course superintendents.

Grasses found on roughs are mostly the same that grow in the fairways. Sheep fescue, popular in the roughs in Eastern United States, is growing in a few spots at Lakeside Country Club. There is an effort being made to determine why sheep fescue grass is not more widely grown on golf course roughs. Alta fescue is showing promise as an ideal grass for the roughs. It seems to have the ability to produce a turf with limited watering. This being due to the deep root system of this grass. Alta fescue combines with the bermuda grass to make an ideal turf for golf tees and for athletic fields.

Bent Grasses Introduced Late
Bent grasses were introduced for putting greens in Southern California much later than in Eastern United States but when Seaside bent was found practical for turf for putting greens it was a definite advancement. The golf folks are now finding the proven creeping bents grown from stolons produce an even better putting surface than Seaside. The greens built in recent years at Mission Valley under the guidance of L. M. Hughes are of an excellent strain of Washington bent, in fact, the same as used on the new 36 hole course in Mexico City. The combination of Arlington, Congressional and Collins creeping bents shows great promise. These bents growing as individual strains for two years and in combination for one year at the Turf Gardens of the University of California, Los Angeles, catch the eye of all golf folks who see them. These are three of the strains of grasses sent to California by the Green Section of the United States Golf Association.

The success of William Glover of Fairfax, Virginia, with these three grasses, which was reported at the National Turf Conference in Boston and in the March issue of GOLFDOM, inspired and encouraged many Southern California turf enthusiasts to push the development of Arlington, Congressional and Collins. There are commercial nurseries now growing these grasses in anticipation of the demand that seems likely for these strains. A deeper root system and the ability to produce a dense turf, sufficient to withstand invasion of poa annua, are two reasons for this combination's superiority to Seaside bent. This turf produces less grain on a putting surface when cut at one-quarter of an inch or less than other putting green grasses found in Southern California. Disease is seldom found on these grasses.

U-3 bermuda, introduced to Southern California two years ago, shows real promise due to its even texture and ability to retain its color throughout the year. This grass can recover rapidly when injured. It thrives on close cutting and heavy nitrogen feeding. U-3 bermuda has found its place in other than golf turf, being satisfactory for athletic fields and when properly maintained produces an ideal lawn.

Have Weed Control Specialists
Where turf grasses grow rapidly weeds do the same and that is evident in Southern California. Healthy, dense turf is helpful in reducing the number of weeds. Dichondra, grown as a lawn turf in the Los Angeles section, is a pest when growing in golf greens or fairway turf. Light applications of 2, 4-D show promise in removing this weed. Dallis grass has appeared in fairways on a few courses. It grows vigorously and is not removed by heavy applications of sulphate of ammonia as in other sections of the United States. Spraying with special oils seems to be the only method of eliminating Dallis grass. Then it is necessary to reseed the area where the weed was removed.

Kikuyu is one weed thriving on golf courses that to date has failed to yield to various herbicides. Dr. A. S. Crafts of the University of California has suggested maleic hydrazide as the chemical that might check this vigorous weed. First applications were made in June.

Turf folks having weed problems in California are indeed fortunate in having two of the country's leading specialists in weed control—Dr. Wilfred W. Robbins and Dr. A. S. Crafts, both Botanists at the College of Agriculture at Davis. They are in a position to give assistance with the elimination of any unusual weeds in turf.

The golf course soils are low in organic matter but produce a good turf rapidly when nitrogen fertilizer is applied. The importance of adding phosphorus prior to establishing new turf is indicated in a series of new plots started the first part of 1950 at the Turf Gardens. Surely two of the problems to which scientific investigators may make a contribution is to determine methods of establishing a turf with a deeper root system and a reduction of soil compaction.

Primarily the reduction of the soil compaction includes allowing more air to enter the soil and judicious use of water. It is noticeable that compaction is greater near

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station on the physical condition of golf 
green soils and its effect on the quality of 
greens; one by Marvin Ferguson, USGA 
Green Section, on effects of different levels 
of six nutrient elements upon the growth 
and seed production of zoysia japonica 
Steud; one by Ethan C. Holt, Texas Agri-
cultural Experiment station on variation 
in sprinkler water and growth characteris-
tics of creeping bentgrass fine-leaved; and 
one by Don Likes, Indiana Agricultural 
Experiment station, on the effect of height 
of cut and irrigation on fairway turf 
grasses.

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sprinkler heads and on greens that have 
been overwatered. The solution of the re-
duction of soil compaction and the work-
ing out of a well managed irrigation pro-
gram will both reduce the maintenance 
costs and be helpful in improving the turf.

**Reducing Soil Compaction**

The mechanical cultivation of the soil 
to reduce compaction shows possibilities 
in Southern California as in other sections 
of the United States. Four different types 
of machines were found in operation in 
Southern California during March, April 
and May, when the writer was visiting 
golf courses. All were showing to advan-
tage since after their action there was a 
rapid increase in root growth and irriga-
tion was reduced. The depth of the tool 
and its cultivation of the soil were two 
actors that determined the effectiveness 
of the machines used.

Striking examples of reduction of soil 
compaction and loosening of the soil were 
at the Victoria Country Club at Riverside, 
and at the San Diego Country Club. At 
the former twenty days after aerifying, 
cut greens changed enabling golfers to 
hold pitch shots to the greens. Prior to 
the aerifying they reported high shots 
failing to stick. The growth of the turf on 
greens at the San Diego Country Club 
changed from fair to good in a few weeks 
after the mechanical aeration of the 
greens. The stimulation of root growth 
from aerifying is evidently the reason for 
the favorable change in turf.

The heavy soil that readily compacts, 
combines poorly with organic matter ma-
terial and sand to make the desired 
medium for growing putting green turf. 
A series of soil amendment plots have 
been started at the Turf Gardens, there-
fore with careful study as to water pene-
tration, depth of roots and clippings 
removed, facts will be secured helpful to 
all who are constructing new greens.

The rainfall in Southern California is 
variable with an annual average of seven 
to fourteen inches. Most of this amount 
falls from October to March inclusive. The 
turf folks want to know every possible 
maintenance practice to enable the turf to 
get the greatest benefit from the seasonal 
rainfall. There are areas where the water 
used for irrigation purposes has a high 
sodium content. Means of moving the 
salts through the soil before they retard 
root growth is another of the problems on 
which facts are desired. It is in Southern 
California that means of producing good 
turf with less water is a paramount 
problem.

Golf is played daily twelve months of 
the year in Southern California. Eighteen 
hole public golf courses report 100,000 
rounds of golf annually. The demand for 
more golf courses seems evident and facts 
will be needed for those who will be de-
veloping new golf courses. It is impera-
tive that the present turf program move 
ahead and be ready for both the develop-
ment of new courses and the maintenance 
of courses having heavy play.

**Push Turf Study**

The spirit to get better turf for golfers 
has caught fire in Southern California. 
The idea of having the University of 
California study fundamental problems in 
turf production originated with the Green-
keeping Superintendents Association of 
Southern California. This program be-
came realistic when the directors of the 
Southern California Golf Association 
threw their weight behind the project. The 
directors raised funds and secured the 
interest of other groups wanting better 
turf. The formation of a Turf Advisory 
Committee was a natural development. 
Membership consists of representatives 
of cemeteries, athletic fields, parks and 
numerous allied interests. C. C. Simpson 
serves as Chairman in addition to his 
duties as Chairman of the Greens Com-
mittee of the Los Angeles Country Club. 
The Secretary is F. W. Roewekamp of the 
Department of Parks and Recreation of 
The City of Los Angeles.

Funds raised are turned over to the 
University of California to develop and 
maintain the Turf Gardens at the Horti-
culture Center at 300 Veteran Avenue, 
Los Angeles. The selection of the site is 
ideal for the college workers and a number 
of interested turf folks. There are eight 
golf courses located within six miles of 
these plots. Park officials, lawn owners 
and representatives of commercial con-
cerns connected with turf visit the 
gardens daily. It was at the gardens 
where the two conferences held, one last 
October and the second in May, had their 
opening sessions. The Superintendents 
have planned an all day meeting at the 
plots this fall and the recently organized 
Athletic Field Superintendents will meet 
there soon.

The Turf Gardens were laid out and 
developed by Dr. V. T. Stoutemyer, head
of Ornamental Horticulture of the University of California, Los Angeles, and his assistant, John Gallagher, Jr., under the guidance of the Turf Advisory Committee. Dean A. W. Hodgson, when opening the First Annual Field Day on Turf Culture, encouraged the group present by stating that within two years the College of Agriculture would plan their budget to maintain the Turf Gardens and inaugurate a turf research program. There is real evidence that as the College supports and assumes full responsibility for the studies of turf grasses and soil there will be funds coming from interested parties for special research studies in the nature of fellowships.

Financial support so far has come from the thirty-four clubs composing the Southern California Golf Association, most of the sixteen golf clubs organized as the Public Links Golf Association, County and City park groups, cemetery interests and commercial organizations. All this financial support is stimulating and inspiring to the College of Agriculture to endeavor to develop a program that will serve turf interests.

Those who attended the two turf conferences held in May, 1950 at Los Angeles and Berkeley asked the University of California to become active in both turf research and extension. These two conferences did arouse the interest of a number of the soil men on the staff of the College of Agriculture. They soon will be bringing forth facts that will be helpful in the solving of turf problems. An Extension Turf Specialist would have the opportunity to correlate agricultural facts from the College applicable to turf and information developed by the Green Section of the United States Golf Association and other Agricultural Experiment Stations conducting turf research programs. That Turf Extension Specialist would find the interest of all green chairman, greenkeeping superintendents and other people wanting facts that would help them to produce better turf. This interest was evident in all groups the writer was privileged to meet during the period a turf survey was made for the University of California in conjunction with the Southern California Golf Association and directed by the Turf Advisory Committee.

The opportunity to see and serve those interested in better turf in Southern California was enjoyable and, it is hoped, beneficial to all. There will always be turf problems to solve but after being in Southern California three months one is sure these problems will be solved as they appear. This will be due to the aggressiveness and sound judgment of the Turf Advisory Committee. Yes, better turf is on the way in Southern California.

USGA announced during National Amateur at Minneapolis its 1952 National Open would be held at Northwood Club, Dallas, Tex., and the 1952 National Amateur at Seattle (Wash.) GC.

1951 Open will be played at Oakland Hills CC, Detroit, Mich., and 1951 National Amateur at Saucon Valley CC, Bethlehem, Pa.

HOW GOLF FIGURES
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time program than they were at the start of World War II. McCoy summarizes:

"The majority of clubs have replaced their most obsolete equipment and have, or are trying, to build up a supply of parts which are not as readily available now as at the start of War II. Some are trying to get new equipment now. Clubs have tried to improve course conditions through drainage, aerification, fertilizing, changing to better strains of grass and so forth. There will undoubtedly be some stockpiling of fungicides and fertilizers.

"In the final analysis what any individual club can do will depend upon finances and supplies available but more important will be the resourcefulness of the various grounds committees and their superintendents." W. C. (Bill) Gordon, pro at Tam O' Shanter CC, Chicago and pres., Illinois PGA, says he thinks the pros will be able to solve their possible wartime problems easier than the greenkeepers. Bill's opinion:

"The situation with pro shop merchandise is now more the result of a buying stampede than of any serious or threatening lack of merchandise. The manufacturers' and distributors' stocks have been cleaned out far more than is usual even at this time of the year when golf business experiences a seasonal reduction. The difference represents stock that has been bought up by members, and possibly in plenty of cases, to the extent that those members won't buy at a normal rate next year.

"The rationing that has been done by pros and manufacturers to control the buying stampede and hoarding I believe has pretty well cared for the situation so that there'll be balls enough to allow all the golf that can be properly fitted into the wartime needs of recreation. If the comparatively minor rubber and steel requirements of the golf industry are cut, say 10% or 20%, conservative selling and wise control will enable pros to care for the players' needs, although not to the extent possible under normal conditions. We also must bear in mind that the game is growing and whatever cuts there are in