TIMELY TURF TOPICS

Issued By The

UNITED STATES GOLF ASSOCIATION GREEN SECTION

ROOM 307, SOUTH BUILDING
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BUILD NEXT YEAR'S TURF NOW

G.S.A. NINETEENTH ANNUAL TURF CONFERENCE AND SHOW: February 9 to 13 are the dates at the Book Cadillac Hotel, Detroit. The Green Section will have an educational exhibit. The best talent in the country will participate in the educational meetings.

STATE AND REGIONAL TURF CONFERENCES: To avoid conflicts and to facilitate travel arrangements for speakers, dates for winter conferences should be set soon. It is suggested that dates be registered with the USGA Green Section for coordination.

CRABGRASS: Crabgrass took a heavy toll of turf in 1947. Causes included (1) a cold wet spring which retarded growth of turf grasses and induced shallow root systems; (2) unusually heavy attacks of *Helminthosporium* (leafspot) which weakened turf grasses; and (3) soil compaction resulting from necessary mowing and foot traffic when soil was saturated. Crabgrass invaded putting greens on many courses where it has not been seen for years.

Chemicals suitable for crabgrass control have helped to reduce the population and to thin the crabgrass to permit the successful reestablishment of turf grasses. The use of chemicals for this purpose is advantageous but unfortunately is not widespread. The principal emphasis in crabgrass control will continue to be placed upon the use of better adapted grasses and better fertilization and management.

The agronomic approach to crabgrass control is to shade the soil with turf grasses so dense and so vigorous that crabgrass has no chance to invade them. In the Washington, D. C., area the most crabgrass-free golf and lawn turf in 1947 was Bermuda grass and Zoysia. Of the two, the Bermuda grass is by far the more important because it is more naturally widespread.

The cultural approach to crabgrass control is to practice frequent brushing, discing or raking, with cutting to remove seed heads before they produce mature seed. Special flexible-tooth adjustable rakes in front of mower units have helped a great deal. Straight discs which are run in two directions cut crabgrass stolons and reduce the rate of vegetative spread. Heavy steel door mats, sections of chain-link fence, or Scotch chain harrows keep crabgrass roughed up so that mowers cut off the seed heads.

With the sharp frosts on September 25 to 28 over many sections of the country, crabgrass is nearly finished for this year. Now is the time to apply generous applications of fertilizer and lime (if needed) to build a strong deep-rooted turf for 1948. Every suitable means should be employed to loosen the soil in order to permit deep penetration of lime and fertilizers. Reseeding with adapted grasses should be done where needed. In many cases fertilization alone should be sufficient to reestablish the turf. On golf turf, it is important to establish grasses which can be cut closely without injury and without unduly inviting crabgrass invasion.

There is no simple answer to the control of crabgrass. No one method nor any one chemical is the complete answer. Growing good grass for dense turf is the most important factor but this becomes a difficult matter in a season like 1947, even for the most skilled superintendents. One of the guides to the suitability and acceptance of a new strain of any turf grass is its ability to prevent invasion of crabgrass even under unfavorable soil and climatic conditions and under abuses of management.

MOWING SURVEY REPORT

Seventy-four reports were returned from 27 states. These were:

	Clubs Reporting	Member Clubs in State
California	6	60
Colorado	2	10
Connecticut	1	32
Delaware	2	7
Illinois	7	61
Indiana	2	24
Kansas	1	5
Kentucky	2	13
Maine	1	5
Maryland	1	20
Massachusetts	2	52
Michigan	1	39
Minnesota	2	22
Missouri	2	24
Nebraska	2	10
New Hampshire	1	3
New Jersey	3	51
New Mexico	1	7
New York	6	139
North Carolina	2	23
Ohio	6	58
Oklahoma	2	11
Oregon	2	9
Pennsylvania	8	105
Texas	4	43
Virginia	5	24
West Virginia	1	18

The reports cover 68 courses which have bentgrass greens, 5 which have Bermuda grass greens (Texas 2), North Carolina (2), and Virginia (1), and 1 in Oregon which reported fescue greens.

Forty-two courses reported seeded greens; 26, vegetated greens.

Height of Cut

	3/16"	1/4"	5/16" or higher
Spring	18	31	17
Summer	17	26	25
Fall	16	35	18

It appears significant that 52 percent of the clubs which reported do not change the height of cut of the putting green mowers at any time during the season. Of those clubs which do not change the height of cut, 46 percent cut at 1/4-inch; 34 percent, at 3/16-inch; and the remaining 20 percent, between 7/32-inch, 5/16-inch, and 3/8-inch.

Frequency of Mowing

Only two courses (North Carolina and Texas) reported daily mowing throughout the season. Frequency of mowing usually depends upon the amount of play, the weather conditions, and the rapidity of growth.

The following table will indicate the extent of variation in the frequency of mowing practiced by clubs which reported.

Frequency of Mowing (Number of Times a Week)

	1	2	3	4	5	6	7
Spring	1	2	20	15	8	22	3
Summer	1	3	15	23	8	16	6
Fall	2	4	22	16	8	15	2

Brushing

Fifty-five clubs reported that the greens are brushed and 14 reported no brushing. Frequency of brushing varies from once a month to once each mowing. The practice of attaching brushes to putting green mowers is the one most commonly reported.

Dollarspot

Only 2 clubs reported very severe attacks of dollarspot; 9, severe attacks; 44, light attacks; and 15, no dollarspot at all. Ninety-two percent of the clubs which had dollarspot reported that this disease was controlled with ease. Dollarspot was included in this mowing survey because it has been observed repeatedly that "matting," as the result of high (over 1/4-inch) mowing, infrequent mowing, and no brushing, produce conditions which are highly favorable to the fungus causing dollarspot. It is difficult to determine this correlation from the results of this survey because many clubs which have had difficulty in controlling dollarspot did not report.

Among the vegetated creeping bents, 21 clubs reported that they used Washington; 4, Arlington (C-1); 2, Cohansey (C-7); 2, Toronto (C-15); 2, Congressional (C-19); 1, Norbeck (C-36); 1, Metropolitan; and 1, Old Orchard (C-52). There was no report on the use of Collins (C-27) bent.

It is recognized that the results of this mowing survey are incomplete; yet they represent an excellent cross section of many top-notch golf clubs and some which are struggling to attain perfection. It is regretted that the purpose of the survey has been misunderstood or ignored by many who could contribute valuable information for many smaller clubs which need guidance in their efforts to produce superior putting green turf. It is the sole intention of these surveys to point out the most desirable practices which produce superior turf.

Summary

The "best" height of cut for good putting surfaces is in the range of 3/16-inch to 1/4-inch.

It is better practice to maintain the same height of cut throughout the season except under extreme weather conditions or under very unusual circumstances. To miss scheduled cutting now and then may be a better practice than to change the height of cut.

The more often the putting green is mowed, the keener will be the surface, and the less will the the likelihood of developing a "mat".

Brushing becomes less of a necessity with closer, more frequent mowing, regardless of the type of grass used.

Dollarspot increases in severity and is more difficult to control as "matting" increased because of high and infrequent mowing and lack of brushing.

In the final analysis, the production of a superior putting surface is the result of judgment, skill, quick recognition of symptoms of trouble, and immediate corrective action. The application of sound principles renders the greenkeeping superintendent's position a highly important one.

SOIL INSECTS CONTROLLED BY CHLORDANE

John C. Schread *

Chlordane, a new organic insecticide, has shown remarkable results in the control of turf insects through rapid killing action and some residual protection.

Ants are serious pests in many types of turf, especially putting greens. The miniature brown ant, *Lasius niger* Linn. var. *americanus* Emery, which is encountered most frequently, builds small single or clustered craters on the surface of turf or open soil. This American ant, as well as other ant species, is controlled by Chlordane. Two treatments are effective; the spot or individual treatment, and the complete turf treatment.

For the individual spot treatment, one-eighth of a teaspoon of 50 percent wettable Chlordane powder is placed in the center of each hill and watered thoroughly into the nest, using a four-gallon pressure sprayer with the spray nozzle removed, or using a watering can with the spreader removed.

For the complete turf treatment, the entire area is impregnated with the material. The 50 percent wettable powder applied at the rate of four ounces to 1,000 square feet was found to be desirable from the standpoint of the economic and the residual value of the insecticide. Four ounces of Chlordane are agitated in 75 to 100 gallons of water in a spray rig and applied with a hose and garden nozzle at a pressure of 100 pounds over 1,000 square feet. The turf is then watered with 50 to 60 gallons of water to 1,000 square feet to obtain maximum penetration. This treatment has destroyed all ants and has given complete protection from reinvasion for a period of four to six weeks. By treating collars and borders, as well as bunkers and approaches, for a radius of 50 feet, reinvasion may be prevented for longer periods.

For Japanese beetle larvae in the soil, Chlordane is quicker acting than are D D T, benzene hexachloride, and Toxaphene. Applied to turf on May 20 at 8, 16, and 24 pounds of actual Chlordane to the acre, the mortality of third instar larvae one month later was in the order of 88, 93, and 98 percent, respectively. The population of grubs in the checks was 106 to the square foot. Chlordane used in the spring against a grub population of 100 to a square foot resulted in no appreciable turf injury whereas the turf in the checks was completely destroyed by June. By the end of August the average for all three rates of application showed 0.2 grubs to the square foot while in the checks it ranged from 35 to 102 grubs to the square foot. Chlordane as 10 percent dust, applied August 15 at the rate of 100 pounds to the acre, reduced the grub population 93 percent in 14 days. For rapid kill, Chlordane may be relied upon.

It is not known exactly how long the toxic effect of Chlordane may last in the soil. However, when it is used in the spring the grub population against which it is applied is rendered innocuous within a few weeks, and the residual value of the insecticide is not entirely lost by early autumn. It is believed that, under conditions of extreme urgency for the control of a heavy grub population in a minimum of time, Chlordane may be used with assurance.

Chlordane used at the rate of six pounds of a five percent dust and applied to 1,000 square feet of turf controls chinch bugs. Application may be made at any time that an infestation is recognized or in anticipation of an outbreak.

[Chlordane is manufactured by Julius Hyman Company, Denver, Colorado. Formulations of Chlordane ready for use (50 percent wettable powder, dusts, oil sprays, and miscible sprays) are manufactured by several companies, including U. S. Rubber Company, Naugatuck, Connecticut; Dow Chemical Company, Midland, Michigan; Planetary Chemical Company, Creve Coeur, Missouri; Chipman Chemical Company, Boundbrook, New Jersey; and Stauffer Chemical Company, 420 Lexington Avenue, New York 17, New York. Ed.]

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