NEWSLETTER

"There is no such thing as mass production of independent thought."

AUGUST

1938

This NEWSLETTER is published monthly by the Greenkeepers Club of New England, and sent free to its members and their Green's Chairmen. Subscription price ten cents a copy, or a dollar a year.

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August, 1938 Vol. 10, No. 8

The ideas and opinions expressed in the subject matter of this NEWSLETTER are not necessarily those of the Editor or the members of the club as a whole.

The club championship will be played at the next meeting, to be held on September 12th, at the Winchester Country Club, Winchester, Mass. There will be a demonstration of Ideal equipment at 11 A. M., lunch at noon, followed by the tournament of 18 holes.

If the weather is bad, whether or not the championship will be played will be left to the discretion of the Golf Committee.

AUGUST MEETING

A joint meeting of the club with the R. I. Association was held at the Agawam Hunt Club, East Providence, R. I. on August 1st. There was a demonstration of Jacobson cutting equipment in the morning. Following lunch, an 18-hole medal handicap tournament was played, with the following prizes being awarded:

1st net, Guy West, 85-66.
2nd net, Nick Bruno, 82-69.
3rd net, Phil Cassidy, 86-70.
4th net, Howard Farrant, 89-71.
5th net, Al Barney, 91-73.

At the business meeting it was voted to appropriate $300 from the Trustees Fund to initiate turf research work at the Waltham Field Station.

In the play-off for the John Shanahan Memorial trophy, held on July 21st during heavy rain, Lloyd Stott and George Apple of Meadowbrook won from John Counsell and Tony Manero of Salem. Both teams scored 87 gross, but the former team had the larger handicap, thus winning the trophy for this year.

The Needham Golf Club has recently started a fairway watering system, using 4" transite pipe, with Buckner valves and heads. At present a three-hole unit is laid out and under construction.

The following letter to member clubs from the U. S. G. A. is worthy of reprinting, as many of our readers may not have seen it. It might be suggested that a copy be posted on the club bulletin board, where it has not been done already.

Protection of Persons Against Lightning

National Bureau of Standards Handbook No. 21, 1937, p. 2.

(a) Do not go out of doors or remain out during thunderstorms unless it is necessary. Stay inside of a building where it is dry, preferably away from fireplaces, stoves and other metal objects.

(b) If there is any choice of shelter, choose in the following order:

1. Large metal or metal-frame buildings.
2. Dwellings or other buildings which are protected against lightning.
3. Large unprotected buildings.
4. Small unprotected buildings.

(c) If remaining out of doors is unavoidable,

1. Keep away from
   (1) Small sheds and shelters if in an exposed location.
   (2) Isolated trees.
   (3) Wire fences.
   (4) Hilltops and wide open spaces.
2. Seek shelter in
   (1) A cave.
   (2) A depression in the ground.
   (3) A deep valley or canyon.
   (4) The foot of a steep or overhanging cliff.
   (5) Dense woods.
   (6) A grove of trees.

Note by United States Golf Association—It is understood that the elevation of golf clubs or umbrellas above one's normal height is dangerous.

NEW JERSEY ASSN. NEWS

Recent letters from Kent Bradley give us interesting news of New Jersey Golf Course Supts. Assn. meetings. On July 11th, the Association met at the Twin Brooks C. C. in Plainfield, with demonstrations of the Terferator and the Perfection Mower Sharpener as part of the program. A talk by Dr. Sprague at this meeting is given elsewhere in this issue.

The August meeting was held at the Suburban G. C. in Union.

A symposium discussion and report of damage incurred on links in this state was made by William C. Colthart, Board of Governors, Suburban Golf Club; John W. Cannon, Greens Committee Chairman of Twin Brooks Country Club, Plainfield; Doctor H. Sprague, Doctor C. C. Hamilton and T. C. Longnecker, of New Jersey Agricultural Experiment Station; Doctor E. E. Evaul, of United States Soil Conservation Commission; C. E. Treat, of Montclair Golf Club; Walter Totty, of Echo Lake Country Club; Jarvis Badgeley, of Galloping Hill Golf Course; Lewis Weilandt of Princeton Country Club; Thomas Hays of Baltusrol Country Club; John Anderson of Essex County Country Club and M. S. Whaley, Golf Course Supply Salesman.

John B. Gill, irrigation engineer, discussed golf course water systems and showed moving pictures of installations. C. K. Bradley of Passaic Co. Golf Course, outlined some studies he has made on irrigation in connection with supplementing rainfall.

N. J. TURF FIELD NOTES

Held July 18 at N. J. Agri. Ex. Sta., cloudy weather, attendance over 300, (240 registered). Between 400-500 test and demonstration plots.

No evening program was held this year.

Sprague talked on the test plots, T. C. Longnecker discussed the soil experiments dealing largely with lime and other nutrient penetration in various soils there. J. H. Boyce, graduate student-assistant agronomist explained methods, material and equipment used on the putting green show plots, to those connected other than with golf greenkeeping.

New strain of velvet bent developed at N. B., was yet unnamed. Naming contest was held, 141 being submitted by the deadline, mailed and brought in from 6 states, letter V headed more names than any other, there being 36 of this letter. Range, alphabetically, was from "Ace" to "Wonder". Judges were R. F. Arnott, Greens Section, N. J. Golf Assoc., Fred Roth, N. J. Golf Course Supts. Assoc., Percy Plat, N. J. Div. P. G. A.

Winning name selected was **Raritan Velvet Bent** (Raritan River nearby).

Prize was to be one pound of the new seed, estimated to contain 10 million seeds. However, three had submitted the same name, so each will get a pound. Only winning contestant present was Oliver A. Deakin, Asst. Landscape Engr. N. J. State Highway Dept. The other two to get their seed when it is harvested are Clyde C. Hamilton, N. J. Sta. Entomologist, and R. A. Jones, Baltusrol C. C., N. J. Second choice of names were "Composit" and "Eureka". The seed presented tested Jan. '38, 99-85 inert 0.9, other crop (grass) seed trace. New strain features are desireable color, texture, vigor, disease and wear resistance, good seed production.

Discussions were general turf topics.

SPRAGUE SPEAKS

(Excerpts of address made before N. J. Golf Course Supts. Assoc. at Twin Brooks C. C., July 11, '38 by Dr. H. B. Sprague, N. J. State Agr. Experiment Sta.)

I've had quite interesting conversation with my table mates this evening, on various subjects. Kent feels it would be well to explain why we have no equipment demonstrations at our Turf Field Days. The reason is merely that we have not the space of turf and other facilities to handle this. Other branches of agriculture are able to show farm machinery, but as to turf tools, we just can't do it. For instance our water pressure is only 25 lbs. and comparitive tests of sprinklers could not be made on a fair basis.

Another item is the fact that our own program takes up a greater part of the day, at a time convenient for those to attend who have to travel some distance.

Personally, I am in favor of demonstrations, and would like to see more of which we had a sample of this afternoon. We at the N. J. Station have high regard for commercial dealers and manufacturers. They render to all an extremely vital service. We are not the least biased or predjudiced, and wish it were possible to have seasonal showings of their wares at some nearby golf course.

Three other things my fellow diners and I talked over are in need of general consideration. The first is, What does the profession of greenkeeping yield? From the aesthetic side, we have a healthy occupation outdoors, and diversified so it does not become boresome. After your day's work is done, there is nothing to worry about except turf disease, insect invasion, drainage, drouth and budget appropriation, so you go to bed for sound and untroubled sleep!!! (plenty of laughter from audience.)

Other than this mentioned "satisfaction", no one seems to know what the average salary yield is. Generally speaking, I do know it is small compared to other forms of specialization. If separate individuals were each paid for the many services one man—the greenkeeper, renders a golf club, the total cost would be very large.

It would be well if you all got together, made a statictical survey of your incomes and make it known. We agronomists have a pretty fair idea of what our vocation income range is, and if one cannot receive what they desire

here, they apply there. I might ask, How can any of you place monetary value on your services if you have no basis for comparison?

Greenkeeping is a profession that is bound to go ahead. By our living standards, recreation importance is on the increase.

Another topic we talked over this evening was the newcomers to replace or carry on the work of present greenkeepers. You in charge of courses today, are certainly more qualified than any, to select the right ones. Agricultural colleges can handle the technical training, but you can only teach the art or practical side of greenkeeping. Boys who come from farm houses, we find are the best material for agricultural training at college. Some greenkeepers present claim their foremen (who are virtually prospective greenkeepers) are better versed in golf maintenance than the superintendents themselves were when at the same stage of the vocation. This is a healthy indication, and leads to the profession becoming as honorable as you, yourselves make it.

The last subject, deals with the ability of what turf research work we can do for you. Your interest shows that it has value, to your courses, your employers and yourselves. Research appropriations in times like these are the first to be cut, and last to be restored. I believe that relief funds are more important, but research work continues in industry, even during times of retrenchment, so that when the time comes, slack can be quickly taken up.

Research is a long and laborious assignment. We are nearing the time when you will want new information quickly, and we will not be able to furnish it. By reduction of funds the well will become dry, the bank will fail. You know the results of turf starvation and neglect when required soil treatments are postponed too long.

Reported by Kent Bradley.

Write up your Summer troubles for the Newsletter! Let's have your "dope" by Sept. 10th. Help us make up a good issue! Thanks!—(Ed.)

QUESTIONS AND ANSWERS ABOUT LAWN SEED AND LAWN CARE

1—What is Lawn Grass Seed?

Lawn Grass Seed is one or more varieties of grasses capable of mowing to lawn length. It may contain clover.

2—What is the Difference Between Lawn Grass Seed and Grass Seed?

All lawn grass seeds are grass seeds but all grass seeds are not adapted to use for lawns as practiced. Corn and Bamboo belong to the grass family as do Timothy and Orchard Grass and many others but are not adapted to lawn use.

3—Are There Different Kinds of Lawn Grass Seed Mixtures?

Yes indeed.

(a)—There are low grade, chaffy, low-priced mixtures usually containing large quantities of temporary varieties and light-weight, low quality perennial varieties. Sometimes contain small quantities of light weight Kentucky Blue Grass.

(b)—There are low-priced, clean mixtures made up entirely of cheap, quick-growing but temporary varieties, such as Rye Grass, Timothy and Red Top.

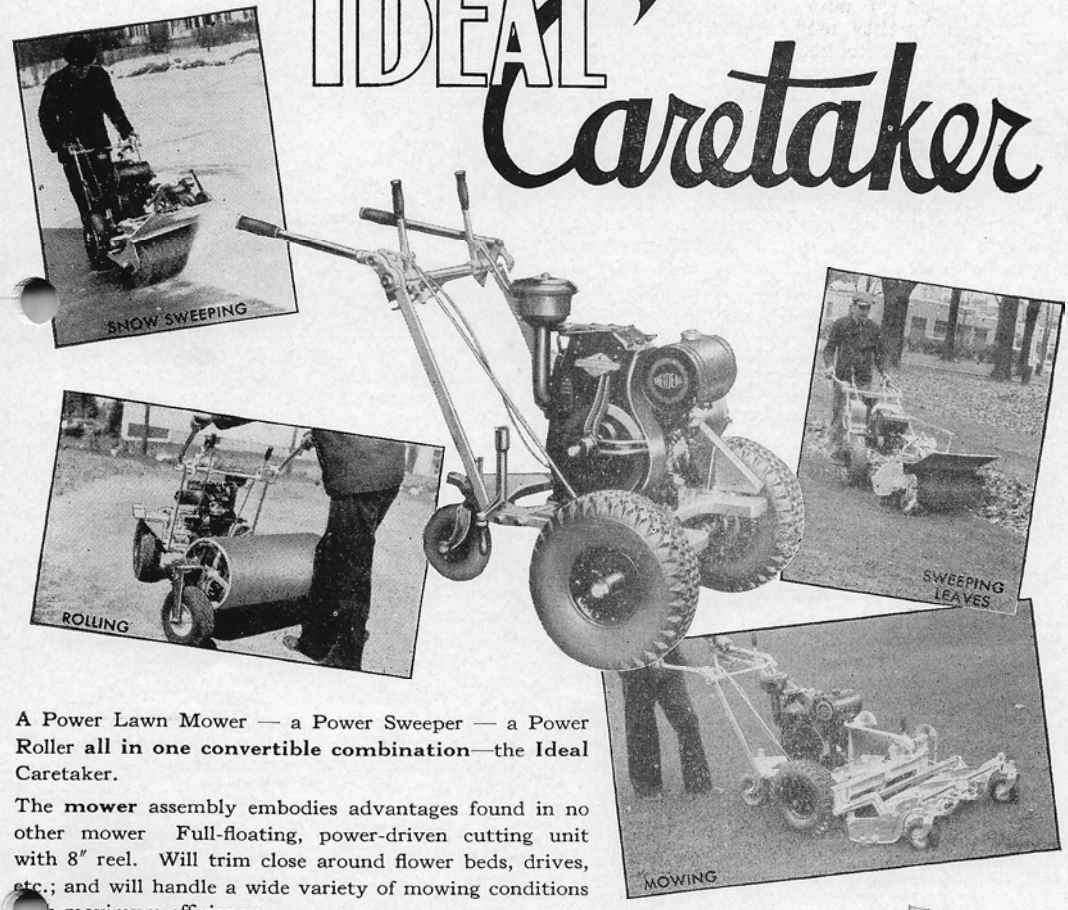
(c)—There are medium-priced, clean mixtures suitable for good lawn turf but which contain a reasonable amount of low-priced, quick-growing varieties which act as a nurse until the slower, but perennial varieties establish a good, sound turf.

(d)—There are Extra Recleaned mixtures made up entirely of perennial varieties. These mixtures are usually balanced to produce fine-textured, lasting turf. The recleaning of these perennial varieties removed the lightweight chaffy seeds leaving only clean high-germinating kernels. This is by far the cheapest mixture to buy.

4—Why Does One Lawn Grass Mixture Cost More Than Another?

Nature played a trick on us. The quick-growing, but short lived grasses are less expensive to raise and harvest and to clean, hence they cost less money. Light-weight chaffy grades of the permanent varieties are either the

Year Round Utility with the IDEAL Caretaker



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cleanings removed by recleaning or a harvest of poor crop seed. Recleaned, high quality seed is the result of selecting only the best crops and then cleaning and recleaning to perfection. This milling also removes the weed seeds. The best seed you can buy is cheapest in the end.

5—What Constitutes a Really Good Lawn Mixture for Average Soils?

A mixture of grasses containing at least 60% of two or more basic or permanent grasses (Kentucky Blue Grass, Colonial Bent or Chewings Fescue) plus a nurse grass (Recleaned Red Top). It should be at least 97% pure and have a germination of at least 88%. Weed content will be at a minimum.

6—How Does a Shady Mixture Differ From a Regular Sunny Mixture?

Turf, under trees, grows with a handicap. Dense shade prevents penetration of the life giving ultra-violet rays. Trees prevent the free circulation of air. Tree roots sap as high as 75% of the water and plant nutrients from the soil and heavy foliage trees act as a watershed in diverting rain under trees. Certain grass varieties prefer cool moist shade for growth but also require fertile alkaline soils. Among this group are Rough Blue Grass (Poa trivialis) and Wood Meadow Grass (Poa nemoralis). Fine-Leaved Fescue prefers shade but is not so particular about the acidity or fertility. Velvet Bent also does well in shade. Other grasses, because of their heavy root-system, thrive on poor deficient soils in the shade, on sand or under any adverse conditions. Chewings Fescue (Festuca rubra var. fallax) is one of our best, if not the best shade grass. Kentucky Blue Grass will also withstand a considerable amount of high shade. A true Shade Mixture, therefore, will contain liberal quantities of the fescues, some of the poas and a small amount of a good clean nurse to occupy the ground until the slow-growing permanent varieties become established.

7—What is a Poor Soil Mixture?

One may either improve soil to produce the type of turf desired or may choose grass varieties capable of surviving on the existing soils. Such a mixture must contain deep-rooting drought-resisting and low-feeding varieties in abundance if permanent turf is to be had. Unfortunately the varieties which can withstand these un-natural conditions grow slowly and a nurse is necessary to occupy the area and to protect the slower but permanent varieties until they become established. Chewings Fescue and Canada Blue Grass as well as Colonial Bent will withstand these conditions. Two or more of these varieties should make up at least 60% of the mixture if it is to serve the purpose for which it is intended.

8—When is the Best Time to Make a New Lawn?

At the same time that nature sows her seed—the fall. The success of lawn depends on the proper development of a deep, vigorous root-system. Early fall seedings afford two ideal growing seasons, fall and spring, before the new turf is subjected to hot trying weather. An early September seeding allows at least six weeks of growing weather before winter sets in thus permitting good root development. If spring seeding is necessary, it should be accomplished as early as possible to permit a long growing period before hot weather. It is more advisable to sow a quick-growing, temporary mixture in the spring and reseed in the early fall with the permanent mixture. Weeds are less aggressive in the fall and good thick turf is the best weed eliminator known.

9—When Should a Lawn be Fed?

Lawn Grasses have the longest growing season of all the vegetable kingdom. They spread or "fill out" during the cool growing weather of spring and fall. For maximum results fertilizer should be applied very early in the spring and again in early September. If two applications per season are impossible, the fall dressing is the more valuable for it will nourish all fall and again the following spring unless the soil is very sandy when it may be lost through leaching.

10—What Analysis Fertilizer Produces Maximum Healthy Turf?

This will vary with the soil. If the area has not been fed for several years, a plant food high in phosphorous should be used. If this is applied in the spring it should be followed by a high nitrogen fertilizer in the fall and each fall thereafter for five years when the high phosphate fertilizer should again be used. For regular feeding the Nitrogen (first figure) should equal the sum of the Phosphate (second figure) and Potash (third figure), such as a 10-6-4, 8-6-2, 10-5-5, etc. The source of the

nitrogen content should be at least 50% from the organic sources with the balance from chemical or in-organic materials.

11—At What Height Should the Lawn Be Cut?

During the spring and fall the lawn may be cut at 1 inch to 1¼ inches. During hot weather, it should be cut at least 1½ inches. (This can be best done by placing the mower on a smooth surface such as a sidewalk or garage floor. By raising or lowering the roller the bedplate can be set to the desired height.) Clippings may or may not be removed, providing they are not heavy enough to mat and cause burn.

12—When and How Should a Lawn Be Watered?

Thorough soakings with a fine mist or spray is of much more value than frequent light waterings. Soak deeply to encourage root-growth. Water at a time of day when the temperature of the soil is nearest the temperature of the water —late evening or early morning. Watering during the day does not damage, but scald invariably results immediately after watering ceases.

—Turf Topics.

SOIL WATER

(A 1937 Recreation Conference Paper)

In greenkeeping one should know a little about soil water. A soil, in order to function as a medium for plant growth, must contain a certain amount of water. This moisture promotes the innumerable chemical and biological activities of the soil and acts as a solvent and carrier of nutrients. The amount, character, and control of soil moisture evidently must be reckoned with in any study of soil and plant relationship, whether they are of a practical or a theoretical nature. The productivity of a soil is often a direct function of its moisture condition.

In order to grow, plants must have a certain amount of water. This is referred to as the water requirement. The expression "water requirement" of a plant refers to its needs and means the amount of water that passes up through it and evaporates for every pound of dry material produced. Plants differ in their water requirements and, for the same plant, climate influences this requirement considerably. In addition to this there is a large percentage lost by evaporation from the soil. Some of the factors that influence the water requirements of plants are:

a. **The weather**—If the air is hot and dry much more water is required than when the air is cool and moist. Wind and sunshine may also increase the amount of water transpired.

b. **The water supply is in the soil**—When the soil contains a large supply of available water, plants are more lavish with it than when there is a low supply or when the soil gives up its moisture more slowly, as in the clay loam or silt loam.

c. **Richness of the soil**—When other conditions are the same a plant requires about one-half the amount of water when growing on a rich soil than on a poor soil.

d. **Manure and fertilizer treatments** —The use of manure or organic material and fertilizers on poor soils not only increases the growth but may decrease the water requirements of plants from 30 to 50%. These factors should be considered by each greenkeeper when the water is applied to a green or a fairway.

In order to understand soil water, it is necessary to know the water and its relation to the soil. This occurs in three forms or conditions:

a. **Gravitational** — or free water. Water which, if opportunity be given it, will flow off or be drawn down through the soil and away by gravity.

b. **Capillary water**—Water which is held by the soil against gravity after all free water is allowed to drain off, but which is free to move from soil particle to soil particle.

c. **Hygroscopic water** — Moisture which exists in air-dried soil, or soil in which plants permanently wilt. Usually a small amount of capillary water is present in soils when plants wilt.

Of these three forms of water, capillary water is the most important, because this is the form which constitutes the soil moisture reserve from which crops or plants draw their water requirement. In later years, because of this, many experiments have taken place on a new watering system for greens and fairways. These experiments consist of pipe run under the surface of the area to be watered, from which

water will be released. The water carried to the plants by capillarity would, theoretically, become more evenly distributed but as yet it has not worked out practically.

There are several factors which influence the rise of capillary water. The two most important are: soil texture and compaction. Soil texture means whether the soil particles are close together with little pore space, as in clay, or whether they are far apart, as in sand or gravel. Compaction, on the other hand, is whether these particles are close together. This causes better capillarity. To aid capillary water in a soil, careful consideration should be given to the top-soil as to its relation with the sub-soil. A good contact between the two allows the capillary water to be drawn up into the top-soil where the plant feeds. This is one of the important reasons for rolling the growing area in the spring. In rolling, one should take care not to do it to too great an extent. Especially is this true in tight, heavy soils such as a clayey soil. In sandy soil the rolling should be more extensive.

Water-holding-capacity must also be taken into consideration in the watering and maintaining of the soil. We mean by water-holding-capacity the greatest amount of water that can be retained after all free water is given a chance to drain out. This water is expressed in percent of perfectly dry soil. The following is a table showing the given water-holding-capacity of different types of soils:

A course sand	15%
A fine sand	22%
A light colored silt loam	30%
A black silt loam	45%
A well decomposed peat	134%

A careful consideration of the facts given should aid greatly in determining the maintenance of one's soil. The importance of soil water to the greenkeeper should affect his water application program. If he understands its functions, he will be better able to regulate and control the water applied as well as after it enters the soil, and adapt it to his particular type of soil.

Submitted by
William Lord
Sydney Golf Club
Sydney, N. Y.

"It's a cinch to cut the other fellow's budget."

GREENKEEPERS' SUMMER BULLETIN

The Spring growing season has been cool with plenty of soil moisture. This has caused an abnormal growth of clover in fairways and to a lesser extent in greens. We have what greenkeepers call a clover year.

This cool damp weather has also caused damage to greens turf by Pythium and Pink Spot, two diseases which are not controlled by mercurial sprays and for which there is no known satisfactory remedy. In some cases, liming of the greens at the rate of 15 lbs. to 1000 sq. ft. of ground limestone is beneficial. Allow ten to fourteen days to elapse between the use of lime and an application of any fertilizer containing ammonia compounds. Spiking, before applying lime, encourages quicker penetration.

The recent hot muggy weather, with an excessive amount of rainfall and cloudy weather, has made a soft tender growth of grass. This growth is very susceptible to brown patch and scald. In this hot weather of mid-summer, half doses of brown patch materials should be applied. Mercurial burns are often worse than the brown patch disease.

What is meant by scald here, is a condition of the soil where the ground is saturated with water. Until this gravity water drains out of the soil and allows air to penetrate, the plant is unable to take in water. If the top of the green dries out while the roots are in the saturated condition described above, it will be necessary to water lightly to control scald. This should not be confused with wilting, a condition where the soil becomes powder dry, and the grass footmarks, when walked on, turn a bluish color and finally brown if not watered immediately.

Troubles from overwatering usually occur in mid-summer. Very often golfers are responsible for this practice because of their demand for a soft green. It is important to have some sort of a tool to frequently test the green for soil moisture to the depth of six inches. The frequency and quantity of water applied varies with the individual green. There are three kinds of water. First: The water table where the ground water stands, and which varies in depth from time to time becoming lower during dry periods and rising in periods of heavy rain. Second: Gravity water which is rainfall seeking the water table by force of gravity or running off through drains. Third: Field water or the useful water which is held around the soil particles. This last is the only form of water available to plant roots. In watering, sufficient water should be applied to nearly satisfy the field water capacity of the soil. Overwater expels the air from the soil and causes waterlogging. This can occur naturally or artificially.

Along with overwatering, another cause of mid-summer turf troubles is over-fertilization. Great care should be exercised during July and August to keep fertilization down to a minimum.

This is crab grass season. Hand weed it out as soon as possible before it seeds. In severe cases, it may help to rake the greens before mowing. Persistent weeding will eventually clean the green.

The white grub seems to be quite prevalent this year in fairways. The excessive rainfall has helped in growing roots on the grass as fast as they are eaten off. However, crows and skunks digging in the fairways in search of grubs do considerable damage. If the injury is too severe, either shoot the crows and skunks or apply arsenate of lead at the rate of 5 lbs. per 1000 sq. ft. For the grub of the manure beetle and similar small grubs, 2 lbs. per 1000 sq. ft.

For sod webworms and cut worms, spray the green at the rate of 2 lbs. per 1000 sq. ft. The leaves of the grass should be thoroughly coated with the arsenate of lead spray.

Reduced budgets have required ingenuity on the greenkeeper's part to keep up the standard of maintenance and reduce operating costs on the golf course. Close supervision, up to date and efficient methods, discussing of problems with other greenkeepers will help to attain this objective.

Service Section Committee,
Mass. Golf Assoc.

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It is interesting to note that 44 out of the 56 courses in the United States, Canada and England, on which the National Open and Amateur Championships have been played, used Worthington equipment and that there are more Worthington Gang Mowers in use throughout the World than all other makes combined.

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