

# TIMELY TURF TOPICS

Issued By The

UNITED STATES GOLF ASSOCIATION GREEN SECTION

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**WEBWORMS:** To control webworms it is important that treatments be made sufficiently early in the season to affect the majority of the brood. If there is any uncertainty as to the presence of the webworms in your turf, they may be detected by the application of pyrethrum extract at the rate of 1 fluid ounce in 5 gallons of water, distributed with an ordinary sprinkling can over an area of about 50 square feet. Shortly after the application, the webworms, if present, will appear on the surface of the turf.

They can usually be controlled with arsenate of lead applied in the form of a spray at the rate of 1 to 2 pounds to 1,000 square feet. When applied by the dry method, 2 to 4 pounds should be mixed with 6 quarts of fine sand and distributed over each 1,000 square feet. It is advisable to apply the poison during clear weather, as it should remain on the foliage for at least two nights.

The common contact poisons, such as pyrethrum, derris, and rotenone are also effective when applied in a dilution of 1 to 400 which is not injurious to turf. Approximately 100 gallons of this dilute solution should be applied to 1,000 square feet.

**BROWNPATCH CONTROL:** In hot, humid weather bent turf is likely to suffer from attacks of brownpatch. This is particularly true in low areas where air circulation is poor. Corrosive sublimate or calomel, either alone or in combination, are usually recommended at the rate of 3 ounces to 1,000 square feet. In particularly hot, humid weather it is wise to reduce the rate to 1 or even 1/2 ounce to 1,000 square feet.

If the fungicides are applied by the spray method, the amount of water required depends on the kind of spray equipment used. Ordinarily 2 to 3 gallons of solution to 1,000 square feet give a good cover. If applied dry, the fungicides must be mixed with sufficient screened soil or sand to insure even distribution and the grass watered lightly after the application to prevent burning.

The most readily soluble compound will give most rapid results, whereas the more slowly available forms such as calomel will have more lasting effects. Since corrosive sublimate is more readily soluble and quickly available, it can well be used alone during periods in which brownpatch is extremely active.

**DYE FOR GRASS:** One of the possible remedies for brownpatch is a dye which was developed a few years ago by the Green Section. It is made up of three chemicals in approximately the following proportions:

Auramine O	67 percent
Malachite Green	30 percent
Crystal Violet	3 percent

As a fungicide, this dye has some possibilities where grass is so succulent that it is readily injured by mercury fungicides, although its effects are not so lasting as are those of the common mercury fungicides. It can also be used to temporarily color grass which is off color due to disease, cold, or other cause.

Since these chemicals are not absolutely uniform products, and since grasses vary somewhat in their shade of green, the proportions of these chemicals may be varied to produce any desired shade of green.

About 1/5 to 1/2 ounce of this mixture of dyes dissolved in from 2 to 5 gallons of water is sufficient to cover 1,000 square feet of turf. The material should be applied as a fine spray. It is not poisonous to man or animals and does not harm the grass. The dye readily comes off when wet, but it sticks well as soon as it dries. A heavy rain usually washes off the dye so that a new application must be made in order to retain a uniform green appearance.

**EXPERIMENTAL GREENS:** Where turf is subjected to trying conditions it is not uncommon to find small areas in which the grass remains conspicuously commendable. These limited areas usually consist of single plants which possess either unusual vigor or resistance to disease, drought, or even insect injury. Many such plants of creeping bent have been transplanted to nurseries and propagated by stolons on a fairly large scale. The Washington and Metropolitan strains, for example, have been developed in this way.

The Green Section has thus collected promising strains of creeping bent from various parts of the country and has tested them in plots under trying conditions at Arlington. During the past few years several strains have shown much promise.



It is difficult, however, to pass judgment on a strain of grass without comparing its behavior with that of other well-tested strains in adjacent plantings. In order to make such comparisons and to test promising strains under as many environmental conditions as possible, the Green Section has established at least one experimental green in almost every principal golfing section where bent can be grown. A typical experimental green contains 12 wedge-shaped sections, each planted with a different strain of bent, and is used as a regular or practice green so that it will be exposed to the regular wear and tear of play. Each green contains standard strains for comparison, but these as well as the newer strains are designated only by numbers to avoid possible partiality in scoring them. To date, the Green Section has established 40 such greens.

Golfers, greenkeepers, and others interested in turf are scoring the grasses periodically. At the end of the season, we shall have a record of the performance of each strain under various local conditions and over the country as a whole.

As shown in the above map, it is more than likely that there is an experimental green in your district. You are urged to visit it and to pass judgment on the various strains. We shall be glad to send you a list of the cooperating clubs. Your rating will help determine which strains are for general use and which are of particular value locally. These experimental greens are already stimulating interest of visitors in improved strains of grass.

**JAPANESE BEETLES:** If you are in or near the Japanese beetle zone and are wondering whether or not you should protect your turf from grub injury, you should watch for the adult Japanese, oriental, and Asiatic garden beetles. It is not necessary to go to the expense of applying arsenate of lead to your turf for protection against the grubs unless adult beetles are present in your immediate vicinity in considerable numbers. However, as suggested in the May, 1940 issue of T.T.T. you may have to apply the arsenate to control white grubs, if the May beetles and June bugs have been active near your turf.

The Japanese beetles are easily detected, because they are most active in the middle of very hot days. The adult beetles begin to emerge about the middle or end of June, becoming increasingly numerous as the season advances. They prefer to feed on the leaves of apple, linden, horsechestnut, sassafras and elm trees as well as of rose bushes, spiraeas, flowering cherry, quince, etc., hibiscus, hollyhocks, dahlias, zinnias, and Virginia creeper. If present, they will be found on the foliage of such plants. They can also be seen at times in large numbers on the turf. In general, they tend to shift from one food plant to another during the season. In early summer they seem to prefer weeds, sassafras, sweet cherries and grapes; in midsummer, fruit and shade trees; and in August and September, plants which are in flower or which tend to put out new foliage that is more tender than the older foliage of their former food plants.

The oriental and Asiatic garden beetles, the grubs of which cause injury to turf similar to that caused by the Japanese beetle, also give ample warning of impending turf injuries by their presence in full daylight on favored vegetation. The adult oriental beetles feed very little. Even on hot days, they do not feed sufficiently intensively to cause alarm. In some cases they feed on grass blades, but oftener they are found feeding on flowers, particularly light-colored roses, hollyhocks, phlox, dahlias and Japanese iris. The eggs, however, are laid in sod and the resulting grubs cause particularly severe damage to turf because they feed just beneath the surface of the soil, eating off the grass roots one-half inch below the surface.

The Asiatic garden beetles prefer the leaves of sumac, Viburnum, Ailanthus, devil's-walking stick, ragweeds, and the flowers as well as foliage of roses, chrysanthemums, asters, dahlias, sunflowers and strawflowers. Fortunately, these beetles tend to lay their eggs in weedy, uncultivated areas, although large numbers may be laid in well-kept turf. Also, when the grubs hatch out of the eggs they tend to feed deeper than do the grubs of the Japanese and oriental beetle and therefore eat only the lower rootlets of the grass, causing less damage to the turf.

None of these beetles fly far from their feeding ground to lay their eggs. Therefore, if they are not found feeding in large numbers in your immediate vicinity you need not fear serious injury from their grubs, even though other areas in your district may experience severe infestations.

**CRABGRASS:** Crabgrass is encouraged by a liberal supply of water, fertilizer, and sunshine. It usually begins to germinate late in May. Therefore, if crabgrass is prevalent in your district you will find it advisable to use both water and fertilizers as sparingly as possible during the next three months. If the turf is cut as high as possible it will shade and discourage seedling crabgrass and thereby help your desirable turf grasses to fight a winning battle this season.

**WHAT IS PYRETHRUM?** Pyrethrum extract, the insecticide, is prepared from the flowers of a chrysanthemum-like plant known as Pyrethrum. This plant grows well in the United States but the fact that harvesting the crop of flowers has necessitated too much hand labor has meant that we have depended for our supply largely upon imports from Dalmatia prior to 1914 and from Japan and from Kenya in British East Africa since that time. The Bureau of Plant Industry has recently announced the experimental development of a machine to harvest the crop and thereby eliminate the hand labor of gathering the flowers.

THE ANNUAL TURF MEETING SPONSORED JOINTLY BY THE U.S.G.A. GREEN SECTION AND THE GREEN-KEEPING SUPERINTENDENTS ASSOCIATION WILL BE HELD AT THE ARLINGTON TURF GARDEN ON MONDAY AND TUESDAY, SEPTEMBER 16 AND 17.