



NEWS LETTER

SOME OBSERVATIONS ON
WEEDS AND THEIR CONTROL

JULY

1934

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

GUY C. WEST Editor
312 Mt. Pleasant St., Fall River, Mass.

HOWARD D. FARRANT Business Mgr.
132 Russett Rd., West Roxbury, Mass.

July, 1934

Vol. 6, No. 7

WHEN YOU get into a tight place and everything goes against you, till it seems as though you could not hold on a minute longer, never give up then, for that is just the place and time that the tide will turn.

—Harriet Beecher Stowe.

(Maybe it will rain soon.)

JULY MEETING

The July meeting was held at the Unicorn Country Club on July 2nd. A member-club official tournament was held in form of four-ball, best ball handicap. The winners were:

- 1st net, Sullivan and Benson, 64.
- 2nd net, McBey and Keefe, 64.
- 3rd net, O'Grady and Whiteside, 66.
- 4th net, Cassidy and Seaberry, 66.
- 5th net, Wendell and Bobel, 66.
- 6th net, McDonough and Fitzgerald, 66.

As this time of year the problem of weeds and their control is of primary importance, and for this reason we are devoting considerable space in this issue of the NEWSLETTER to this subject. The Greens Section of the U. S. G. A. was for the past few years, until compelled to stop for lack of finances this year, doing much experimenting upon weed control, and was just getting results when forced to cancel the work. This is indeed unfortunate. We will hope for a resumption of this work in the near future.

We are pleased to reprint, as a fine statement of the weed problem, an

article in the March, 1931, "Pacific Greenkeeper". This applies to New England as well as California.

WEED CONSCIOUSNESS

California must be made sanely "weed conscious" if the problem of weeds in the state is to be solved, says Dr. W. W. Robbins, of the Botany Division at the University of California Branch of the College of Agriculture. "It is a problem of all of us," he says, "to devise ways and means of accomplishing this."

"Weed consciousness," continues Dr. Robbins, "does not mean a wild enthusiasm which leads us to tackle the problem of weeds with a temporary vengeance; it does not mean uncontrolled whooping it up on every occasion in behalf of weed control; it does not call for extravagant statements pointing to the millions upon millions of dollars which are lost each year due to weeds, and to the dire results which will befall our lot if weeds are allowed to increase at the rate they have been in the last few years; it does not mean that we should use high pressure tactics upon the public and initiate and foster heated drives and campaigns to exterminate every last noxious weed; and it does not mean drastic law enforcement at a time when we are not too sure of the results which follow a method of procedure.

MUST KNOW PROBLEM

"A community that is weed conscious knows its weeds and its weed problem; it has a practical knowledge of the ways in which weeds injure the farming industry; it is familiar with means by which new weeds gain entrance and a foothold in the community; it is intelligently watchful and alert to find new and improved methods of control, and alive to the necessity for community cooperation and effort."

Dr. Robbins recommends a continued campaign of education, through writing, by demonstrating and by talking. There is nothing, he says, that will be more harmful in the campaign against weeds than premature publicity con-

cerning a method of control which has worked well in one locality, before finding whether it will work equally well in other places. "We need very much experimental work on weeds, and until a specific method is tried and true," he says, "we need to exercise considerable caution and restraint, curb our enthusiasm, and proceed slowly."

PRINCIPLES OF WEED CONTROL

(from "Weeds and Their Control",
Extension Bulletin No. 171,
Iowa State College.)

In the control of weeds there are certain fundamental principles involved which, if followed carefully, will greatly aid in the success of the program. These principles are as follows:

1. Sow clean seed of strong vitality.
2. Prevent weed seed production.
3. Do not plow land covered with weeds having mature seeds until weeds have been burned.
4. Encourage germination of weed seeds and kill them in the seedling stage.
5. Destroy rootstocks of perennials whenever possible.
6. Prevent storage of organic food reserves in the roots of perennials.
7. Maintain or increase soil fertility.
8. Learn to classify weeds and start eradication measures as soon as the nature of a new weed is determined.
9. Develop community cooperation by education.

CLASSIFICATION OF WEEDS ACCORDING TO LENGTH OF LIFE

In fighting weeds it is extremely important to know how long they naturally live and their habits of reproduction. Weeds are divided into three classes according to their duration or length of life: (1) Annuals, (2) biennials, (3) perennials.

Annual weeds live only one year, maturing their seeds and then dying. Ragweed, wild oat, and crabgrass are examples of annual weeds. Some annuals

germinate in the fall, live through the winter, and mature their seeds in the spring. These are called winter annuals. Examples of winter annuals are shepherd's-purse, chickweed, and henbit.

Biennial weeds live two years. During the first year they grow rather slowly, producing usually a taproot and a rosette of leaves close to the ground, but the second year they send up flower stems that produce seed, and then die. Examples of biennial weeds are blueweed, bull thistle, and wild carrot.

Perennial weeds produce each year underground parts which live over to the next year and produce top growth. These underground parts may be of various kinds. They may consist of long, more or less horizontal roots, as in the case of the horse nettle, milkweed, and Canada thistle, or the underground parts may consist of rootstocks or underground stems, as in the case of quack grass, Johnson grass, and perennial sow thistle. Again, the underground parts may consist of bulbs that split up, as in the case of wild garlic, or they may be more or less in the form of a taproot, as with dandelion.

The Control of Weeds

Far more important than to kill weeds is to avoid having weeds to kill. In other words, the farmer should aim to prevent rather than to cure the evil. A farm can be made almost free of especially troublesome weeds by strictly observing the following principles: (1) Prevent weeds from going to seed on the farm; (2) prevent weed seeds from being brought to the farm; and (3) in the case of perennial weeds, prevent them from making top growth and thus finally starve out the underground parts.

(from U. S. D. A. Farmers Bulletin,
No. 660.)

CONTROLLING CRAB GRASS ON LAWNS

Howard B. Sprague, Agronomist,
N. J. Agri. Exp. Sta.

The control of crab grass and similar summer weeds in lawns need not be difficult or expensive. It is merely necessary to attack the pests at the weak points in the growth cycle. Fortunately, the same treatment which con-

trols such weeds greatly improves the vigor of desirable turf grasses.

Crab grass ceases active growth in late summer and is completely killed by frost. On the contrary, the permanent grasses continue healthy sturdy growth for several months in fall after the active crab grass season terminates, and also makes at least two months in spring before the seeds of summer weeds germinate. During this period the lawn may be restored to such density and vigor that crab grass seedlings will find neither space nor light for development at the critical stage in late May or early June.

In late summer, the infested areas should be raked before each mowing to lift the prostrate stems of the weed and facilitate their removal. Attention should then be given to soil conditions. Since the desirable grasses prefer mildly acid to neutral soils, lime should be applied to correct excessive acidity which is frequently present. Fifty pounds of hydrated lime or 75 pounds of finely ground limestone, evenly applied to each 1,000 square feet of lawn surface, will usually prove adequate for a two-year period. In addition, an application of a complete commercial fertilizer at the rate of 15 to 25 pounds per 1,000 square feet, will greatly stimulate turf growth during the fall season when crab grass is dormant. Thin or bare areas may be raked thoroughly to incorporate the lime and fertilizer with the soil, seeded with a suitable mixture of adapted grasses, and thoroughly watered.

An early spring application of complete fertilizer should also be made to induce further growth of the turf grasses. A complete fertilizer which carries nitrogen, phosphorous, and potash, is greatly superior to materials such as sulfate of ammonia that supply nitrogen only. An ideal commercial fertilizer for lawns contains approximately two-thirds of its nitrogen in a soluble form for immediate use by the grass plants, and the remainder in a slowly available form.

The use of such organic substances as bone meal, tankage, and similar materials as the sole fertilizer on lawns is likely to benefit the crab grass rather than the turf grasses. Organic fertilizers must decay before their plant food is released, and such decomposition proceeds only with warm temperatures and abundant moisture. Consequently, lawns treated solely with organics in fall

or spring derive little benefit until warm weather sets in, at which time crab grass, beginning growth, absorbs the nutrients made available. On the other hand, the complete commercial fertilizer recommended above stimulates the desirable grasses at a season when crab grass is absent.

Lawns receiving a fall and early spring application of a suitable fertilizer, will require no further feeding during the summer period. Late spring and summer fertilization favors crab grass at the expense of the turf grasses. Watering should be reduced to a minimum during the warm months, since abundant moisture stimulates crab grass more than the desirable grasses. However, periodic deep watering is greatly preferred to frequent shallow sprinklings. The turf should never be cut closer than 1 inch, and preferably 1½ inches in spring, to permit development of a dense growth, thus preventing germinating weed seeds from obtaining sufficient light or space for establishment.

The treatment outlined above is inexpensive, convenient, and has proved successful under a variety of conditions. Persistent hand weeding in early summer is also an effective means of crab grass control, but the labor involved is so great that few lawn owners succeed with this method. The alternative treatment eliminates the pest naturally, by competition.

WEED CONTROL IN GOLF GREENS AND FAIRWAYS

(from "Combatting Diseases and Weeds in Golf Greens" by R. H. Porter, Iowa State College)

The most fundamental principles are (1) to provide conditions ideal for the growth of the grasses desired (2) to avoid the introduction of weed seeds in either the grass seed, top dressing or sod and (3) to prevent weed seed production at all times. If these principles are strictly adhered to the weed problem will be materially reduced.

Most Serious Weeds

The weeds which are liable to become established are dandelion, common plantain, buckhorn, sheep sorrel, mouse

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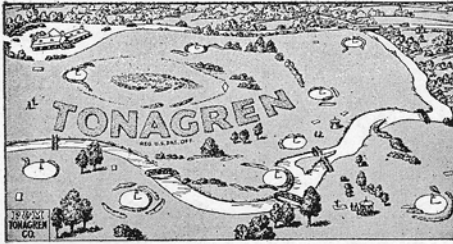
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ear chickweed, common chickweed, dooryard knotweed, crabgrass and prostrate spurge. The methods which will aid in controlling these weeds are as follows:

1—Sow only clean seed. It is easy to introduce various kinds of weeds in the grass seed sown. This can be avoided by having all seeds tested by the Botany Seed Laboratory at Iowa State College.

2—Compost the material for top dressings long enough to either kill the weeds by the heat of decomposition or to encourage their germination. Destroy all weeds growing in compost heaps before seeds are produced.

3—Pull out or cut close to the ground all weeds in greens before they have opportunity to produce seeds. This is especially important with annuals such as crabgrass, spurge, knotweed and common chickweed.

4—Before starting a putting green be sure the soil has plenty of organic matter to grow good grass and hold moisture. If black soil is used to fill in try to avoid soil that is foul with weed seeds. If this is not possible allow the seeds to germinate and destroy the young seedlings before the green is seeded or planted with stolons.

5—If weeds get started in certain spots, remove the plants, sod and all, and replace with fresh sod.

6—Provide ample plant food well enough balanced so that the grass is made to grow luxuriantly at all times. This aids the grass to crowd out weeds. Ammonium sulfate and superphosphate encourage growth of grass and in addition the sulfate of ammonia is toxic to such weeds as dandelion and plantain. In time it may be necessary to apply lime in order to correct the soil acidity caused by long use of sulfate of ammonia. Sour thin soil is favorable to the growth of sheep sorrel, a perennial that is often difficult to destroy. Sulfate of ammonia will burn grass if used in large quantities when the grass is dry. It may be put on in liquid form or the green sprinkled after its application.

7—It may be profitable to use CK-10-90 or FK described in Circular P. D.-186 to destroy dandelions, after which the area may be resodded or reseeded as desired.

8—Keep the greens well watered in the dry period of the summer. All grasses commonly used on greens require plenty of water, whereas many weeds thrive even when the soil is dry.

The following are extracts from Extension Leaflet No. 78, Mass. State College Extension Service—"Killing Weeds With Chemicals" by Orton L. Clark.

Lawns

Iron sulphate also kills chickweed and purslane after repeated sprayings. Heal-all, gill-over-the-ground, broad- and narrow-leaved plantain were either killed or badly injured by the spray. The use of this spray should be followed in the fall by top-dressing with a complete commercial fertilizer or with well-rotted manure. The bare spots left

after killing the dandelions should be filled in by reseeding with a mixture of Kentucky Blue grass, red top and a little white clover seed. This iron sulphate will not kill crab-grass and other weed grasses, and also it must be remembered that it is injurious to clover.

The Rhode Island Experiment Station has found that the application of fertilizer giving an acid reaction tends to eliminate many weeds from lawns as most weeds will not thrive on acid soil, whereas the best lawn grasses (Rhode Island and other bent grasses as well as the fescues) do best where the soil is slightly acid. They recommend a top-dressing of 250 lbs. sulphate of ammonia, 400 lbs. acid phosphate and 250 lbs. muriate of potash per acre. The top-dressing is applied annually in the spring, decreasing the amount in proportion to the rate of disappearance of the weeds. On newly seeded lawns the amount used should be somewhat less than the rate given above. It should be noted, however, that such treatment will tend to decrease the stand of clover in a lawn and some soils rich in lime will not respond to this treatment.

Moss in lawns is often successfully eradicated with a 15% solution of iron

sulphate at the rate of 50 gallons per acre but one should bear in mind that moss indicates a poorly drained soil or a soil lacking sufficient nutrient substance so that after killing the moss it is well to remove the cause of its presence by enriching and liming the soil. It is also advisable to top-dress lawns after spraying with iron sulphate with nitrate of soda to stimulate the growth of the grass.

Substances termed lawn sands, usually a mixture of sulphate of ammonia and sand or brick dust, may often be used to good advantage to rid the lawn of plantain and daisies. Sulphate of ammonia has a somewhat poisonous action on the weeds, but its main action is to increase the growth of the grass, thus crowding out the undesirable weeds.

Dandelions In Lawns

Dandelions may be successfully eradicated by four or five sprayings of iron sulphate, the first being applied in May before the blossoming period. Two other sprayings should follow at intervals of three or four weeks. In late summer or fall two more sprayings are

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advisable to complete the treatment. The strength of solution used is from 1½ to 2 lbs. of iron sulphate per gallon of water. One gallon of this solution covers about 350 square feet of lawn. The importance of applying the spray as a very fine mist cannot be over emphasized.

Weeds In Driveways, Tennis Courts, Walks, Etc.

It is essential that such areas be free from all vegetation in contrast to the lawns and fields where the problem is to rid the grass of undesirable weeds. Therefore, much more powerful weedicides can be used. One of the most effective substances which is lasting in its effect is sodium chlorate. This chemical is used at the strength of 1 pound to 1 gallon of water and sprinkled over the infested area at the rate of 1 gallon per square yard either by means of a watering pot or, if the area is large, by a sprinkler, which can easily be made by any local plumber. It consists of a water-tight box or barrel mounted on wheels and fitted with a 3-foot brass pipe, ¾ inches in diameter, with ½ inch holes bored in the lower side at intervals of one inch. Shut-off valves on the pipe will be found convenient. The sprinkler is wheeled over the infested area slowly where the weeds are thick and more rapidly over the bare places. Sodium chlorate kills all vegetation and has the property of remaining in the soil for a long time so that one or two thorough treatments should be all that is necessary to completely free a driveway, tennis court, walk, or similar area from plant growth. The sodium chlorate may also be applied as a dry powder and washed in by gentle sprinkling with a hose.

Weeds Scattered About Lawns, Walks, Etc.

In the case of isolated weeds in lawns, walks, etc., the crowns of the plants may be jabbed with a pointed stick or bar and a small amount of sodium chlorate solution poured into the hole. There are certain patented weeders on the market which are thrust into the crown of the weeds and release there a small quantity of the poisonous liquid near the roots of the plants. It is much cheaper to fill the instruments with sodium chlorate than to buy expensive patent compounds often sold with them.

Miscellaneous

Poison Ivy. This plant may be eradicated from the base of trees, walls, buildings, etc., by the use of sodium chlorate, 1 pound to 1 gallon of water. The soil at the base of the vines should be thoroughly soaked with the solution taking up some of the sod, if necessary, to insure reaching the roots of the ivy. Two or three treatments may be needed in the case of large, luxuriant vines.

If the ivy is in patches in a field or garden, it is better either to plow it up and cultivate the area until the ivy is gotten rid of or to smother it by the use of tarred paper, weighting down the paper with stones. Treatment with sodium chlorate would prevent the growth of other vegetation and leave unsightly patches, whereas if the poison ivy is smothered out, the area may be planted later to grass or other plants.

Salt brine (30 lbs. to 10 gals. of H₂O has given good control if persistently used either sprayed on the leaves or saturating the soil about the roots after cutting off the tops of the plants. If new growth appears, repeat the treatment at intervals of two weeks.

The New Jersey Station recommends salt (ground rock salt is best) applied early in the growing season at the rate of 100-500 lbs. per square rod. The salt gives best results if applied just before a rain. In a dry season the soil should be well watered with a hose, for the salt, until it is in solution, will not be effective in killing the ivy.

Weeds Along the Fence Line. A simple means of killing weeds along fences which may harbor insects or mature seed and so be a serious menace is to sprinkle an area along the base of the fence with sodium chlorate 1 pound to 1 gallon of water, or with salt brine 30 pounds to 10 gallons of water.

Weeds and Algae in Ponds. Stagnant pools and ponds often become filled with a green unsightly slime made up of numerous different algae or water plants. Ponds can be rid of this growth to a large extent by the use of copper sulphate either spraying on to the slime a solution containing 1½ ounces of copper sulphate to 2 gallons of water or else the whole pond or pool may be treated by dragging copper sulphate in a cloth bag through the water. The copper sulphate should not be used stronger than 1 pound to 125,000 gal-

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lons of water, for if the copper sulphate is used much stronger any fish in the pond are likely to be killed by it. (Multiply the average length, breadth and depth of the pond in feet by $6\frac{1}{4}$ to get the average number of gallons in the pond.) Undesirable water plants may be eradicated by placing in the muck about their roots handfuls of copper sulphate which diffuses through the muck and gradually kills the roots.

An Effective New Weecicide, Sodium Chlorate

Among the chemicals successfully tried out in recent years, sodium chlorate applied either as a spray (1 pound to 1 gallon of water) or as a dry powder (3 to 5 pounds per square rod) has proved very useful. All types of vegetation are killed by this salt and it is, therefore, not suited for use against weeds in lawns or among crops, but its use is indicated where the weeds occur in patches. It has been used effectively against quack grass, poison ivy, Canadian thistle, bindweed, orange hawkweed, and other perennial and annual weeds. The spray is most destructive to the weeds when applied just before blossoming. Two or three sprayings may be needed on badly-infested areas at six-week intervals.

Recent studies have shown that dry sodium chlorate (3 to 5 pounds per square rod) applied to the weed patches late in the fall (early November) will leach down and kill the roots. This is simpler than spraying and avoids the fire hazards connected with the use of sprays, and by spring the toxic action of the salt has disappeared sufficiently to permit growing of crops the following summer.

The annual Turf Field Day will be held at the New Jersey Agricultural Experiment Station, New Brunswick, N. J. on Monday, July 23rd. A discussion will be given of the research under way and the application of the experimental results to practical turf management.

We understand that there are available a few more samples of the new ant killer, Antube, and anyone who wishes same can secure a sample by writing the New England Toro Co.

This material has been tried successfully by many greenkeepers this season, and merits your trying a sample if you have not already done so.

Emil Masciocchi of Oak Hill C. C., our club champion, shattered his course record on July 10th, with a 65, seven under par. The previous course record was 69, held by Johnny Farrell. Such shooting is certainly over our heads, Emil!

The July meeting of the Rhode Island Greenkeepers Association will be held at the Wannamoisett Country Club on July 23rd. The educational program will consist of a talk on Fairy Ring by Dr. Howard, a talk on brown-patch by Dr. Irwin, and a discussion on turf diseases.

As instructed by Article XIII, section (d) of the By-Laws, I am submitting a list of the members in good standing.

A. E. Anderson	A. W. McLean
Algernon Barney	Louis Marrato
Manuel Braga	E. A. Masciocchi
Simeon Brafo	T. T. Mattus
Thomas Brennan	M. D. Maxwell
Everett Capello	R. A. Mitchell
P. I. Cassidy	S. S. Mitchell
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H. C. Darling	E. Ohlsen
H. C. Durkin	W. W. Partridge
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Arthur Fontaine	Everett Pyle
Elmer D. Fuller	R. Robinson
Thomas Galvin	G. R. Rommell
R. T. Granger	John Shanahan
M. M. Greene	C. E. Sowerby
H. D. Hall	E. H. Stephenson
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J. R. Hartwell	R. Sturtevant
D. A. Hannon	T. W. Swanson
Stephen Hannon	James Sullivan
Christian Hansen	Patrick Tameo
Edwin Hansen	Andrew Tirammi
P. F. Hayden	C. E. Treat
Walter Howe	G. Volmer
J. Johnson	S. T. Vickery
J. S. Latvis	C. W. Vickery
James Lawson	P. G. Wanberg
George Lodge	A. R. Wendell
R. P. McBey	O. L. Wendell
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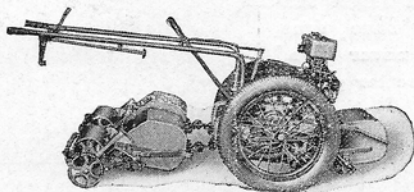
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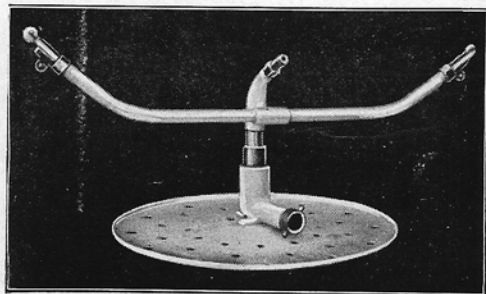
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