



# NEWS LETTER

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It is only the great hearted who can be true friends. The mean and cowardly can never know what true friendship means.

—Kingsley

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**JUNE**

**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.

GUY C. WEST ..... Editor  
Rhode Island Country Club  
West Barrington, R. I.

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Business Mgr.  
28 Granville St., Dorchester, Mass.

June, 1938 Vol. 10, No. 6

*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.*

### JULY MEETING

The Greenkeeper-Pro John Shanahan Memorial Tournament will be held at the Brae Burn Country Club, West Newton, Mass. on July 18th. It will be held as an 18 Hole Scotch Foursome, selected drive, with  $\frac{1}{2}$  of combined handicaps being allowed, no handicap to exceed 24. The committee asks that all teams try to tee off by 10 A. M.

The annual FIELD DAY at the Proving Grounds for Turf Grasses of the F. H. Woodruff & Sons of Milford, Conn. will be held on June 28th. Inspection of the plots at 11 A. M., followed by hot dinner and refreshments.

The June meeting was held on the 6th at the Framingham Country Club, Framingham, Mass. Twenty-eight played in the medal handicap tournament, with the following prizes being awarded:

- Tied for first net—  
P. Cassidy—89-16-73  
L. Stott—97-24-73
- Tied for 2nd net—  
H. Mosher—98-24-74  
H. Mitchell—102-28-74
- Third net—  
Nick Bruno—88-13-75

There was a demonstration of the Terferator in the morning.

The R. I. Greenkeepers Association met on June 20th at the Sakonnet G. C., Little Compton, R. I. The next meeting of this association will be on July 11th at the Annaquatucket G. C., Wickford, R. I.

The Board of Directors met on June 20th at the Hotel Statler, Boston.

The Entertainment Committee announces that there will be a demonstration of Jacobson equipment at the August meeting, in September the Ideal Caretaker will be demonstrated, and at the October meeting, Rototillar will show their attachment for aeration of greens.

Our Turf Bill arrived in the House at the time when that body and the Governor were at odds, and hence it was defeated; but only after several Representatives had spoken in favor of it. Another attempt will be made next year to get this necessary appropriation.

Attention is called to a section of our by-laws for the benefit of all who assist in sending in applications. Dues and initiation fee are payable with the application as stated in the following:

#### Dues and Initiation Fee

Article 5, Section B as amended:  
For new members, the year shall be divided into four (4) quarters. Applicants for membership in the 1st quarter shall deposit ten dollars (\$10.00) with the Secretary with their application. In the second quarter the sum of eight dollars and seventy-five cents (\$8.75). In the third quarter seven dollars and fifty cents (\$7.50) and in the fourth quarter six dollars and twenty-five cents (\$6.25).

#### Hit 'Em & Weep

A meeting of greenskeepers at the University of New Hampshire were told that tear gas was an effective weapon for killing weeds.

When one thinks of all the tears and gas that have been poured over the golf courses of the country, it is surprising that weeds should offer a problem.

(Boston Post.)

## RHODE ISLAND FIELD DAY

The Ninth Annual Field Day for Greenkeepers and other Turf Growers was held at the Rhode Island State College on May 23rd. Following registration, the usual trip to the experimental plots, under the direction of Dr. DeFrance and Mr. Erwin, proved of interest.

Dr. Gilbert led the discussion period after lunch. The speakers with their subjects were as follows:

President R. G. Bressler—Greetings from the College.

R. A. Mitchell, President of New England Greenkeepers' Club, "My Experiences with Velvet Bent at Kernwood."

Everett Pyle, Hartford, Connecticut, "My Observations and Experience with Piper Velvet Bent."

C. W. Baker, F. H. Woodruff & Sons, Milford, Connecticut, "Velvet Bent and the Future."

J. A. DeFrance, Rhode Island State College, "The Present and Future of Velvet Bent Seed Production."

At the Annual Meeting of the R. I. Greenkeepers Association, Guy West was elected President; R. W. Peckham, V. President; Dr. J. E. DeFrance, Secretary; and Martin Greene, Treasurer.

A list of the experiments at the turf plots follows:

### Turf Experiments

at

Rhode Island Agricultural Experiment Station—1938

### Lawn Plats

1. Old Lawn Plats—established in 1905. Keeping soil acid vs. alkaline in reaction, when seeded with Kentucky Bluegrass, R. I. Bent, Redtop, and Red Fescue.
2. Nitrate, organic and ammonia nitrogen on Kentucky Bluegrass.
3. Effect of different soil reactions on R. I. and Velvet Bent plats fertilized with nitrate of soda and with sulfate of ammonia plus lime.
4. Effects of compost topdressing on different grasses.
5. Results of arsenate of lead and other weed treatments.
6. Plats planted with different grasses as compared with colonial bent.
7. Wild White and White Dutch Clover study.
8. Disease control study.

### Golf Green Plats

1. Section A—Strains and variety tests.  
Comparison of different strains and varieties of bent grasses.  
Stolons vs. seed.  
Reproduction test—individual plants from different grasses.  
Comparison of treatments for webworm control.  
Comparison of treatments for prevention of brownpatch diseases.
2. Section D  
Comparison of fertilizer ratios on Piper Velvet, R. I. Colonial, and Washington Creeping bents.
3. Section E  
Comparison of different sources of nitrogen on Piper Velvet, R. I. Colonial, and Washington Creeping bents.

### Seed Plats

1. Section B  
Comparison of individual plants from promising strains of velvet and colonial bents.
2. Section C  
Fertilizer test with velvet bent.  
A test of Piper velvet bent grown for seed with different kinds of fertilizer mixtures and with and without lime.
3. Velvet bents for increase of seed.  
Piper and Kernwood velvet bents from several plantings.

## TREASURER'S NOTICE

### Article XIII, Section C of the Constitution:—

The Treasurer shall notify all delinquent members on June first of each year and if dues are not paid by July first such members shall forfeit the privileges of the club.

Unless dues are paid before July 18, members in arrears will not be eligible to play in the Greenkeeper-Pro John Shanahan Memorial Tournament at Brae Burn.

Frank H. Wilson, Treas.



## PUTTING GREENS AND THE TIME FOR WATERING

Student Paper Read at 1938 Recreation  
Conference Golf Section — Mass.  
State College by

JACK WHITE, Pro-Greenkeeper  
Stockbridge C. C., Stockbridge, Mass.

The matter of artificial watering on putting greens is an important phase of golf course maintenance and presents a problem that requires considerable planning. Irrespective of the type of golf course we are engaged at, several factors are involved, and each of these items should be carefully considered before a definite program can be arranged.

The water supply to the plant must be continuous. Any shortage, even for a brief period, will cause wilting and if it is sufficiently intense it may permanently affect growth. Shortage in the early days may cause a retardation of growth that may continue throughout the life of the plant, while shortage at a later stage will cause the plant to be abnormal in character. It is not a part of this paper to discuss the method of applying water. It should be realized, however, that artificial watering should be used PURELY as a supplement to rainfall and should never be resorted to unless an actual shortage exists.

The plant absorbs water through the root hairs and gets its supply from the soil. Water has two distinct operations in connection with plant life, the first external and the second internal. The external job is to serve as a solvent for the elements in the soil necessary for growth.

This point merits some emphasis as only in this manner is the plant capable of obtaining the nutrients that are so vital to its life. A soil well stocked in nutrients, but depleted of water, places the plant in a position similar to that of the destitute man who gazes longingly at the display of food in the window of a palatial restaurant. Both have the desire to eat. To each, food is but a short distance away, but neither has the means to get it, the man lacking money and the plant water.

The solution enters the root hairs by osmosis and is conducted up the stem to the leaves which are the manufacturing parts of the plant. When this

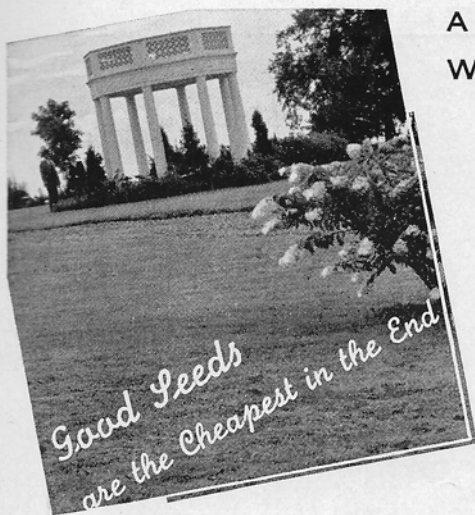
area is reached, water serves as one of the essential raw materials in the process of carbo-hydrate manufacture, called photosynthesis. Again water comes into the picture and translocates the manufactured foods to the roots where it is stored and where some of it is used. Furthermore, much water is required for the process of transpiration (loss of water from the plant in the form of vapor). According to figures compiled by Dr. Sprague of the New Jersey experiment station, the average green of 5000 square feet will throw off from 100 to 211 gallons of water every 24 hours. The enormity of these figures, coupled with the fact that plant tissues are made up of, from 70 to 85% water, clearly indicates why it is necessary that we make certain the plant has a continuous supply of water. The grass plant might well be compared to a two story factory. The root hairs serve as the landing platforms where the raw materials are delivered. The roots and the stem are the first floor that provide a storage space and also contain the elevators through which this raw material is moved up to the upper floor. The leaves represent this second floor where the manufacturing takes place and water is the motivating force which delivers both the raw materials and the finished product to their respective places.

The principal object of this paper is to call to your attention what takes place when water is applied to the greens at various hours of the day. The hours for watering will be divided into four general periods, namely, all night watering, the application of water during mid-day when play is heavy, early evening watering and water that is applied during the early morning hours. Each of these items should be considered and the advantages and disadvantages evaluated.

In order that we may arrive at a reasonable conclusion, it is necessary that some definite assumptions be made as to the type of soil we have on the course and also the condition of the grass on the greens. We shall use the average good soil of normal fertility and one that is reasonably friable. The grass is to be one of the healthy bents, the time of year will be during the hot summer months when the moisture in the soil is low and the plants in danger of wilting.

The factors involved in the order of their importance are: 1—the natural





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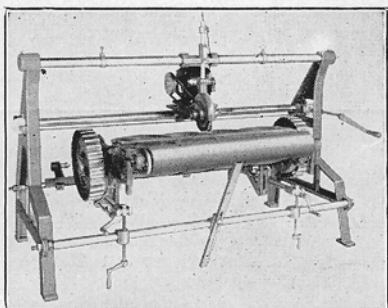
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use of water by the plants; 2—the possibility of causing injury or encouraging disease; 3—the type of soil on the course; 4—the item of expense and the consideration of the golfer so that his pleasure in playing the course will not be impaired.

Research work has proven that the plant performs certain functions at definite times of the day. Starch-making is the most important of these. Photosynthesis, the process of making starch, requires strong light and takes place from sunrise until about 4 P. M. For this reason the plant will absorb more water during this period than at any other time during the day. Some plant diseases, particularly brown patch, thrive during the hot wet conditions. During the summer months tempera-

tures often drop suddenly, and the resultant rise in relative humidity materially affects evaporation. If such a condition happens at a time when the rate of transpiration is high and the sprinklers are pouring water on the greens, the brown patch is presented with a made-to-order home in which to operate. Water is expensive, both from the purchase price and the item of labor in getting it to the greens. This statement can be applied if the water is purchased from a municipal supply or if it is pumped from a natural reservoir within the limits of the course. The catering to the pleasure of the player has been so widely acknowledged that I do not feel it need be discussed at this time. Different soils have different water holding capacity. Water exists in

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the soil in three forms: capillary water that forms a film around the soil particles, hygroscopic water that is locked up within the soil particles, and free water that should run off through good drainage. Capillary water is the only one available to the plant, and this fact should be considered when we are determining the amount of water to be applied to the greens. Free water is especially harmful in that it prevents aeration and causes the plant to suffer.

The turning on of a sprinkler system and allowing it to run all night has been a common procedure at many clubs. This has been resorted to in many cases as a solution to the labor problem, in as much as no workmen have been present during the time the water was running. While this may have seemed beneficial to the budget, it is a questionable practice and many eminent greenkeepers consider this operation important enough to demand their personal supervision. Excessive costs can be built up in two ways from this practice. More water may be applied than was necessary, with the resultant high water bills and much fertilizer will be leached out of the soil in the drainage water. This,

of course, has to be replaced with additional applications of fertilizer at considerable extra cost. In addition to this, overwatering results in a water logged condition in the soil. Poor aeration in the soil cuts down the rate of respiration in the root, which all means less root-growth. A dwarfed root system results in less water absorption by osmosis, which in turn means the process of photosynthesis is hindered. The amount of water lost by transpiration is also lessened. Concerning this latter point, recent investigation shows that the greater the rate of transpiration, the greater the intake of organic salts by the grass plant. In respect to the advantages of all-night watering, it is only natural to assume there will be an ample supply to the grass the following day. While this is desirable, the water put on at night may offer conditions suitable to the growth of fungus diseases. This is dependent, of course, on the temperature and humidity readings.

The application of water from 6.30 to 8.30 in the evening has much in common with all-night watering. Many of the advantages and disadvantages are



similar. If this is made a common practice, however, there is danger that a good portion of the water supplied to the plant during the evening hours will not be available the following morning. Loss of water by evaporation and the downward flow of water in the soil accounts for such. If this condition is followed by a day ideal for high transpiration and evaporation, wilting is apt to follow because of water shortage. Also, in cities and towns, a great deal of water is being used during the evening hours, which causes a variation in water pressures. This is important to the clubs which depend on a municipal supply and are not equipped with their own pumping facilities.

Applying water to the greens from noon until three o'clock, when play is usually heavy, is sure to bring much unfavorable comment from the golfers. Putting is uncertain due to the varied speed of the greens, while pitch shots leave large ball marks which are undesirable, both from the playing and the cultural standpoint. When caddies are sent ahead to shut off the water these youngsters frequently find the line of least resistance the most convenient, and double up the hose instead of walking a few more steps to a faucet. This frequently calls for an item of considerable size in the next year's budget for hose replacement. The tramping of a large number of players and caddies will cause a packed or puddled condition. The results of this packing causes injury to the plants similar to these mentioned when over-watering was brought to your attention. Transpiration and respiration are interfered with and the condition usually persists until spiking or some similar operation is resorted to. This, of course, means additional expense. Again the possibility of wilting is apparent as the supply may be evaporated before the following morning. Pressures are not constant and the rate of evaporation is exceptionally high, which means that no more water will have to be used to have the soil get the desired amount.

The early morning watering should take place from 4.30 to 7.30 A. M. One of the main advantages of this time is that we are working with nature in providing the plant with a supply at a time when it is most natural for the plant to use it. This is advantageous as it assures the processes of photosynthesis and transpiration normal conditions in which to work. The water is

applied when the grass is already wet and poling is reduced to a minimum. A better general idea of the weather for the day can be made at this time and water not needed will not be applied. This will prove profitable both from the cultural and financial standpoint. This time may call for a slight adjustment in the working hours of the greensmen, but the golfer will not be annoyed, nor will the greens be susceptible to injury from the players. Pressure will be more uniform and there should be no extra loss by evaporation. Water supplied at this time will prove less liable to encourage disease than at any other time during the day. The rising temperatures warm the air and the evaporation assumes a more normal rate with the result that brown patch is materially reduced.

It is my personal belief that during all our cultural practices the 18 greens on the course should be treated as individuals. While they may have the same general appearance, they will have individual characteristics and will respond differently to our cultural practices. This is very important to consider when watering. Many courses, particularly those of a hilly nature, have a variety of soils; and greens that are on knolls will have a different water requirement than those situated at the lower part of the course.

From the facts previously mentioned, you can readily see that each period of the day has its advantages and disadvantages in respect to the time of watering. However, upon careful thought and consideration, I feel confident that the advantages of early morning watering more outweigh the points in favor of watering at any other period.

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## TALKS ON TREES

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By E. Porter Felt  
Bartlett Tree Research Laboratories  
Stamford, Conn.

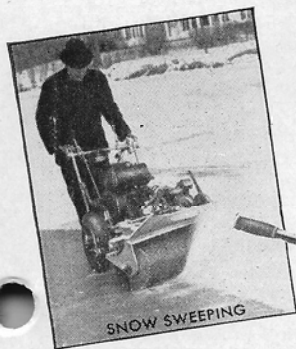
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Are you tree conscious? Most of us are Christmas tree conscious. Too few give much thought to the trees along the streets and sheltering our homes. Is the Christmas season followed by interest in other trees? They adorn our streets and parks twelve months in the year. Are they healthy? It is a good time to look.

---

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These other trees, particularly the elms and maples, add much to the desirability of many communities and most homes. They are local and valuable assets. They reflect the appreciation of the better things in life. Have you noticed the increase in the number of weak or dying street trees? The season of 1938 is near at hand with its added need for the protection of street and park trees. Within the next few weeks municipalities, villages and towns will be making up their budgets and in view of this, those who are tree conscious, really interested in trees, should see to it that due provision in the budget is made for tree protection.

The main reason is found in continuing and preventable losses of stately trees due to the annual ravages of destructive insects such as the elm leaf beetle in the Hudson and Mohawk River Valleys and cankerworms in central New York State about Cazenovia and Rome. Both pests may be extremely abundant and injurious next summer. Defoliated trees are unsightly. More important, leaf destruction seriously weakens trees and produces conditions favorable to the existence of the European elm bark beetle—well known as the principal carrier of the deadly Dutch elm disease. The Federal Government and the States of Connecticut, New Jersey and New York are spending large sums to control this disease. Communities in the northeastern states should cooperate and by making provisions for pruning and spraying keep their trees healthy and thus aid greatly in the war against the Dutch elm disease.

It is a case where helping yourself helps others. By all means make the most of the Christmas tree and while doing this remember there are other trees and plan to help them in the months to come.

It is surprising what may be read from a few twigs if they are carefully scrutinized.

There has just come to hand a small branch of European beech showing a peculiar spotting of the bark due to the growth of a fungus which was recognized as a secondary, rather than one which invades and kills perfectly healthy tissue. The twig was accompanied by a statement to the effect that the beech had been sprayed and also fed last year. Both of these operations

are beneficial and would tend to prevent dying of the branches. It was also stated that the tree was alive last spring and on the partly dead branch there was one shoot which showed a most satisfactory growth. All the other tips had made little growth, a half inch or less each year as compared with some eight inches on the one shoot. It was a rather puzzling condition.

The ten or twelve small shoots showing an unsatisfactory growth for the last five or six years indicated that the trouble was of some years standing. The difficulty was to explain the entirely satisfactory growth of the one shoot, until it was noted that this started at the base of a recently killed branch. Evidently there had been a sudden killing back and the sap and nutriment which ordinarily would have been transported to a series of eight or more branches had been diverted to this one. The probability of this being the true explanation was further evidenced by finding several years ago somewhat extensive killing of weakened branches by this same fungus or European elms which presumably had suffered greatly from the extreme cold of the winter of 1933-34. It is probable that the trouble with the beech started at about the same time and that the injury was somewhat less than that of the elms, and as a consequence the dying of twigs did not occur until the past season.

It is obvious that troubles of this nature should be anticipated and the trees kept in a vigorous condition by feeding, and where conditions warrant, spray for the control of plant diseases.

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What is to be the fate of the twenty-five million shade and ornamental elms in the United States?

This is the question propounded in an admirably illustrated, concise brochure entitled: "The American Elm; Its Glorious History; Its Present Dilemma; Its Hope for Protection" just issued by the American Forestry Association. Elms in fourteen representative cities total 2,313,963 and are valued at \$66,800,500., the average value per tree ranging from \$10. in Chicago to \$218. in Springfield, Mass.

Here is a summary of the Dutch elm disease in America. The Federal Government has expended nearly \$10,000,000. in control work, nearly nine-tenths of this from emergency funds, New Jersey over \$190,000., New

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York State \$422,500. and Connecticut \$38,700., a total of nearly \$11,500,000. Well toward 28,000 diseased elms have been destroyed, nearly 20,000 in New Jersey. Figures show that in New Jersey there has been a reduction of about one-fourth in the number of diseased trees found in 1937 compared with 1936 and that in the State of New York there was a similar progressive reduction for the past two years.

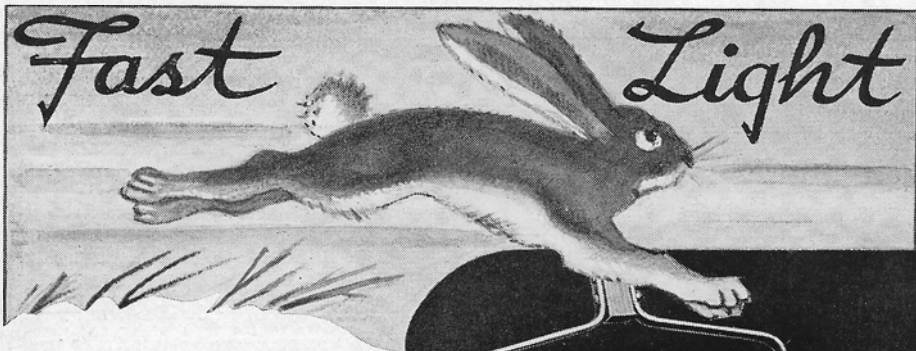
A serious phase is that such a large proportion of the funds came from Federal emergency appropriations which are closely restricted by provisions prescribed by the Works Progress Administration. Uncertainty as to the amount available from year to year and limitations on the selection of the personnel has prevented creating the trained force necessary to the most effective operation. Dutch Elm Disease Control must be based upon a general appreciation of the gravity of the situation. The obvious purpose of this brochure is to acquaint people with what has been accomplished. There are suggestions as to what individuals can do in protecting their trees. The broader phases of the project can be successfully prosecuted only by Federal and State agencies working in close cooperation.

The above relates to but one of a number of shade tree problems in different sections of the country.

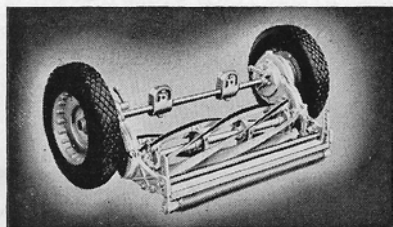
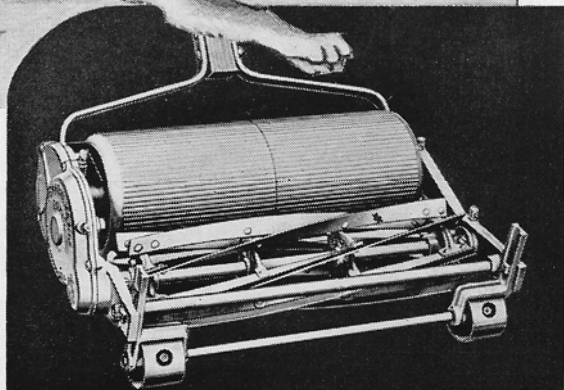
A thousand trees killed in one year stirs people to action. They do not mind it much if the killing is distributed over a number of seasons.

Nearly forty years ago the cities of Albany and Troy, N. Y., each lost from elm leaf beetle work nearly a thousand trees in one year. The killing was so general that people were disturbed. Provision was made for the systematic spraying of elms. The results were gratifying. Similar spraying, though mostly sporadic was done in other cities and villages where there were marked injuries. The treatments reduced the amount of damage greatly and in a number of places there was comparatively little spraying in later years.

The elm leaf beetle is a local insect. It is especially likely to be abundant in the centers of cities and villages because the older buildings in such areas, particularly the belfries of churches, offer favorable conditions for the wintering of the pests and nearby trees suffer accordingly. Nearly forty years



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ago this opinion was questioned by a minister who could not believe that anything ill could be associated with a house of worship. An examination of the grounds about his church revealed series of dead stumps, eloquent testimony to the deadly work of the beetle in preceding years.

The sweeping beetle defoliations in larger cities is now mostly a matter of record. Each year witnesses some leaf destruction, in many cases severe injury to elms in hundreds of the smaller cities and villages and in most cases little is done about it. Ten, fifty, or perhaps a hundred trees are removed annually in many communities and the general opinion is that the trees have died of old age. They are usually the victims of repeated beetle injury frequently aggravated by malnutrition and drought effects. These trees are mostly in or near centers. Many business streets in villages are treeless. Others are headed in that direction. A major cause is elm leaf beetle injury.

Most communities can ill afford to lose such trees. They cannot be replaced in a half century. They can be protected if there is a will so to do.

The problem of controlling shade tree pests came up for discussion at the National Scientific Meetings held recently at Indianapolis, Indiana.

It has become something of a habit to believe that spraying woodlands for the control of forest pests is limited largely to the east. One scientist described the protection of resort areas in State of Minnesota from a plague of caterpillars, called army worms, really forest tent caterpillars. It was found that spraying a three hundred foot strip around the camps gave satisfactory protection from these crawling pests and that marked relief was secured if one only fifty feet wide was sprayed. The account of autogiro spraying of forested areas in New Jersey suggests that similar methods might be more economical in the resort sections of Minnesota than the use of power sprayers.

A record from Connecticut indicates that the European pine shoot moth, a serious pest of red and Scotch pine, suffers a heavy winter mortality. It will be recalled that the extremely severe winter of 1933-34 greatly reduced the numbers of this borer in New England. Better knowledge of the habits of the insect and the possibilities of control by timely spraying means an advance toward the prevention of serious losses.

The European elm bark beetle is well known as the principal carrier of the Dutch elm disease. A related native species, the red-legged elm bark beetle, a borer at first in dead outer bark, also carries the disease, though much less efficiently than the introduced beetle. The latter infects most of the elms in its early feeding on the thin bark of the smaller twigs. This difference in feeding habits may account in considerable measure for the relative efficiency of these beetles as carriers of the Dutch elm disease.

National Scientific Meetings focus knowledge upon a wide variety of subjects. It is through such conferences that some of the most important advances in science become possible.

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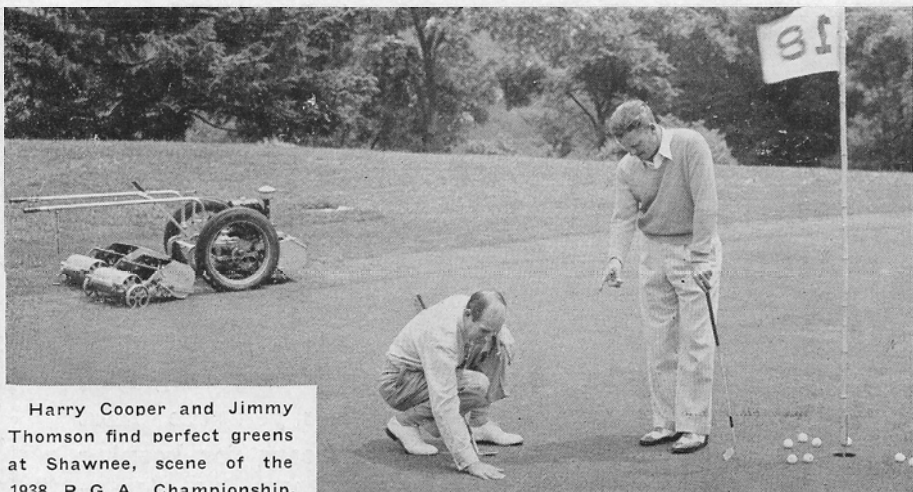
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