NEWS LETTER

WORK IS THE LAW

Work is the law. Like iron that, lying idle about, degenerates into a mass of useless rust, like water that in an unruffled pool sickens into a stagnant and corrupt state, so, without action, the spirit of men turns to a dead thing, loses its force, ceases to inspire us to leave some trace of ourselves on this earth.

—Leonard Da Vinci.

SEPTEMBER

1937

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
213 Calvin St., Fall River, Mass.

JAMES McCORMACK . . Business Mgr.
450 William St., Stoneham, Mass.

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THE GOLFER'S PRAYER

When facing outward on Life's tee
Whate'er may be my fate,
Grant—I pray—this boon to me
That I may drive them straight . . .

And if my best be not enough
Then give me courage high,
To go out there into the rough
And play them as they lie . . .

And when on Life's broad putting green
Other's make the cup,
If I do not—may I come clean
And always be well up . . .

So when my game of Life is played
And my clubs are laid aside,
No matter what mistakes I've made,
May I have qualified.

—Anon.

During the last few years several devices have been offered for use in marking the position of a ball when lifted from a green, to eliminate the scratching of the green with tee, finger, or other object. Recently a rather new device which has been used for some years at the Charles River Country Club and other clubs has come into prominence. This device is known as the "Mark-it", and is a flat circular piece of rust-resisting metal, thinner and smaller than a dime, with four prongs on the underside. Clubs which use this device usually provide them at the first tee free to the players. Advantages claimed for the marker are:

1. It will save greens and that will save money.
2. It will add a convenience to course equipment that all the players will use and appreciate.
3. It will mark a ball accurately—no more guessing which scratch marked the ball.
4. It will not deflect the course of a putted ball as a coin will—the hole in the middle allows the grass to come up through.
5. It will not be dislodged by a ball passing over it—the small prongs hold it firmly in place.
6. It will be safe to handle—the sharp edges have been removed.
7. It will not be left on the green—players must pick it up when they replace their ball, and it does not injure mower blades.

It is not the practice of the Greenkeepers Club of New England to endorse publicly any product, but we are pleased editorially to endorse the principle of using this or some other similar device to mark the position of lifted balls instead of scratching the green. Every greenkeeper has had many headaches from seeing beautiful greens marked by thoughtless players, and welcomes any plan to eliminate such marks.

We have been privileged this year to reprint in this and several previous issues some "Talks on Trees" by Mr. E. Porter Felt of the Bartlett Tree Research Laboratories. We hope that our readers have gleaned some information from these articles to help in the care of trees around the various courses. Trees around the edges of a golf hole often "make" the hole, and their care is rightly the concern of the thinking greenkeeper.

The Entertainment Committee reports that a fine speaking program is being planned for the Winter indoor meetings. Why not resolve now to be present at all these meetings? You will gain, and your friends will be pleased to see you. The annual Frolic is being planned for November, so make up your mind now to be there with the wife.

From all sides come reports that this season has been tough for course maintenance, so don't think you are the only one with troubles. We all have them; come around and talk them over; maybe we can solve them together.

THE GREENKEEPERS' MISCELLANY

Conducted by John Kay, M.Sc.Agr.

Reprinted from
The Australian Greenkeeper

Overhauling Equipment

On most courses the winter is the best time of the year for overhauling and repairing equipment. Unfortunately, on many courses little or no provision is made for winter work of any kind. Where this type of work has not been done already, no time should be lost in attending to it.

The best time to make major repairs is when there is sufficient time to put a piece of equipment out of use long enough to do a good job. Thorough overhauling of equipment during the winter and spring months often saves much time, money and unpleasant situations caused by breakdowns during the busy season.

The reduced budget of recent years has made it necessary to use much of the equipment on golf courses beyond its normal span of usefulness.

As overhauling is being done, a complete appraisal of equipment can be made. Practical limitations on repairs should be recognized and worn-out equipment should be replaced at once.

It is important to recognize the possible life of machines at this time of year rather than to wait for them to break down just before an important tournament or when they are being overworked during the busiest season even without a tournament.

A thorough inventory not only of the major equipment but also the smaller items, such as flag-poles, cups and rakes, should be made. If this has not been done during the winter, advantage should be taken of some of the bad weather in spring, when regular work is held up, to make such an inventory. An order for replacements now and a little repair work and painting will save many delays and complaints during the rush days soon to come.

Information

While referring to overhauling and repairs of course equipment, it is well not to forget the most important piece of equipment used in maintaining a modern golf course or bowling green—the greenkeeper's mind. Perhaps there are a few worn-out or antiquated parts there in the form of theories or so-called practical ideas. Perhaps some of these ideas had better be scrapped and replaced, others may need only a few repairs and adjustments, while others may need simply a little polishing and sharpening by rubbing against similar ideas from other minds, either through personal contact or through the printed page.

The club assumes the bill for the parts and replacements in the mowing equipment for the course, so why not include at least part or the expense involved in improvements in the mental equipment to be used on the course?

It is argued that the particular piece of equipment mentioned above does not belong to the club and may leave at any time. Regardless of the merits of this contention, there seems no reasonable argument against the club assuming the bill for a reasonably good collection of books, bulletins and pamphlets to become a permanent part of the greenkeeping equipment. Throughout the season a modern greenkeeper who knows how to use books will find plenty of occasions for a handy library.

Moving Trees

Fall and winter are good times to transplant trees. This work can be handled by any greenkeeping crew if it is done at the right time. The tree is prepared for transplanting, if time permits, by pruning the roots during one or two seasons, gradually cutting around the ball and watering and fertilizing to induce growth of new roots close to the trunk. Medium to large trees are conveniently moved with the ball of earth; approximately 12 inches of root ball should be secured for each inch of the trunk diameter. The hole which is to receive the transplant should be dug larger than the ball in order to allow room for filling in with good soil.

Trimming the Tree

The best time to cut down trees or trim off branches is during periods of good weather during the winter months. In doing work of this kind it is well to keep in mind the opening of passage ways which will admit freer circulation of air on some of the greens and tees that are in bad air pockets. The pruning of shrubbery during the winter months will often add materially to the general appearance of the clubhouse grounds. It should be remembered, however, that

many of the flowering shrubs, particularly those that bloom early in the season, should not be trimmed during the winter. In such cases, the pruning is best delayed until after the shrubs have bloomed next spring.

GOLF COURSE SIGNS

By W. E. Langton

(Reprinted from
The Pacific Greenkeeper)

There is a well substantiated belief going the rounds to the effect that a man's thoughts, ambitions, and character are indicated by the books that he reads. It might also be said with a great degree of truth that the character and disposition of the players on any golf course can be shown by the signs scattered around that course.

Most signs on courses are a series of "don'ts." Their purposes are varied: to control ignorant players, to restrain selfish people, and to prevent disputes. Sometimes they are put up with a vindictive feeling on the part of a club official; sometimes a member vested with a little authority wishes his world to have some tangible indication that he is justifying his position as a club officer. At any rate nearly all the signs are rules for regulating conduct, but whether or not they fulfill this mission is problematical.

It is the opinion of the writer that most signs represent so much wasted effort, for decent people will not understand them, and selfish people will not heed them. They are generally an indication of weak officials who would rather stick out a sign for the benefit of one who violates golfiing ethics than go directly to the culprit and give it to him straight from the shoulder, which latter practice is much more efficient. It cannot, of course, be said that absolutely all signs are the result of having weak or vacillating officials in office, but most signs are placed because that is the line of least resistance. It is the easiest way out and does not hurt the dainty feelings of the constant offender.

It is becoming more and more apparent to greenkeepers that the greater the number of signs placed on a particular golf course, the weaker are the officials, either that or the members are sadly deficient in a knowledge of the rules of the game, a sad commentary on any course. The writer observed at one club enough signs to govern congress and yet to any observer it was apparent that the players on this course were no better governed that those of another course which has just one sign which read, "Be gentlemen; play the game." In fact all the signs ever printed could not mean more than this one, if as much.

KENT'S COMMENTS

By Kent Bradley

"UNSHAKO."—Not the name of a patent medicine for the jitters, but a product of the Standard Pressed Steel Co. of Jenkintown, Pa., that is, THE NUTS! A combination hexagon machine nut with built-in lock washer, that is used by leading aircraft motor manufacturers. Has been on the market, and in use for some time. They come in various sizes and threads, and STAY PUT.

This terrible typester has been in the hair of golf course machine builders for some time to use castellated machine nuts held secure by cotter pins, as do automobile manufacturers. The trite gag "for want of a nail, a shoe was lost, etc. etc. could be brought up to date. by, "For want of a nut, a bolt was lost, for want of a bolt, a part was lost (or broken), for want of a part time and money was lost in golf course routine work."

Mechanical-minded golf maintenance managers either drill holes in bolts and use the castellated nuts on new equipment, or use Irish lock washers" which is defined as a peined thread, to keep parts from shaking loose. The bolt is n. g. when taken off though. This trouble is out of style now.

We await with interest to see how many progressive manufacturers of our rolling equipment will take this broad hint, and use "unshako" nuts in 1938. Yes, they cost more, but worth it, and in many cases less than to drill holes for cotter pins. They could be used on mowers' tractors, spreaders, spikers, and compost machines, as a start.

—(Note: the writer has no stock in the company, nor is he acquainted with anyone in the Standard Pressed Steel Co. This tip is passed on solely as a help in solving a hectic problem.)

TALKS ON TREES

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

Ants and scale insects are occasionally associated and under some conditions ants are signs of scale insects being present.

The oak gall scale, so-named because the scale insect looks for all the world like a gall, occurs singly or in clusters on the smaller twigs of oaks. These scale insects are grayish or dark brown, harmonize well with the bark of the twigs upon which they occur and might easily be mistaken for buds. In midsummer they are nearly full grown and the scale insects may be attended by clusters of ants intent on securing the abundant sweetish liquid they excrete and known as honeydew. It is probable that the ants give material protection to these curious scale insects.

The intimate relation between the ants and the scale insects is suggested by a condition occurring at the Laboratories. There is a row about seventy feet long of small red oaks. Two of these trees are frequented by ants and also infested by this oak gall scale. The relationship is somewhat obvious since the ants have also made burrows at the base of these two trees. More than that, there is in the cultivated strip in which the oaks stand an ant run-way seventy-five feet long, the length of the row and ending in a main nest near a stone wall. The nests at the bases of the two trees near the opposite end of the row are apparently secondary shelters. These ants, only about one-quarter of an inch long have extended their community activities a relatively long distance if due allowance is made for size. A similar extension for man would be approximately four miles and while this is only a little ways with modern automotive transportation, remember that the ants have no such assistance. There is another interesting insect in this ant-inhabited area, namely, a small predacious wasp engaged in capturing good-sized female ants and using them to provision burrows in which the grubs of the wasps develop.

These three insects have somewhat definite relations to each other and are more or less dependent upon the oaks being infested by this peculiar scale insect.

Velvety, greenish-yellowish or brown patches are sometimes abundant on beech leaves, especially on low sprouts or low-hanging branches.

This peculiar discoloration is caused by an extremely tiny plant mite, approximately a hundredth of an inch in length and barely visible with a good hand magnifier and under favorable light conditions. The mites presumably winter under the bud scales or in the shelter of rough places on the bark and begin to produce the velvety areas as the leaves start pushing out of the buds. The feeding of the mites results in the stimulation of the leaf surface and the production of mat-like areas consisting of irregularly open groups of abnormal plant cells in and under which the mites thrive. The affected areas of the leaf are mostly concave on the upper surface of the leaf and convex or bulging on the under surface. The gall-producing tissue is usually on the latter.

A somewhat badly affected leaf is easily recognized by the lighter green depressed areas between the veins on the upper surface and the elevated, smooth mealy appearing spots on the under side of the leaf. These latter are first a light yellowish-green, becoming somewhat grayish as they age and eventually a rich brown. They vary in shape from irregularly oval spots to areas occupying most of the space between the veins. Badly infested leaves may have three-fourths of the surface or more covered with this peculiar growth. Ordinarily the affected area varies from possibly one-fourth to one-tenth of the leaf surface.

These plant mites produce a conspicuous discoloration of beech foliage. They are rarely sufficiently abundant on the beech to materially injure the tree, although they may weaken badly affected branches.

Ordinarily, spraying for this mite can be justified only as a means of preventing an undesirable disfiguration of the foliage.

There is a growing appreciation of the importance of shade and ornamental trees in communities.

This is evidenced by a number of recent clippings from several papers. The Kiwanis Club of Quincy, Illinois, has undertaken to deliver free more than 8,000 Chinese elms to the school children and it is expected that many additional hundreds of trees will be planted

by others. The Royal Oak Garden Club of Royal Oak, Mich., is cooperating in a practical way to secure more general planting of trees in that community, the effort to include setting trees along vacant lots as well as in front of dwellings.

The boy scouts of Waterbury, Conn. are cooperating with the park commission in making a tree survey of that enterprising city. Such a group can easily report upon the number, the size and the condition of trees in different areas in the city. A little comparison will doubtless show a goodly number of trees in some sections and almost none in others. It is possible that the Boy Scouts will retain sufficient interest in the street trees during the summer to report any which seem to be in a sickly condition.

An unusual departure is noted in a recent issue of the Tacoma (Wash.) News-Tribune, which lists shrubs and trees at street corners that obstruct view and are traffic menaces. A recent city ordinance gives the police department of that city authority to correct such conditions. The list was published in hopes that there would be general cooperation on the part of owners and therefore few cases where police powers must be invoked. Trees and shrubs are community assets and yet, they should not be located so as to endanger life. This latter is true not only of trees and shrubs obstructing views at street intersections, but is also true of sizeable dead limbs on street trees. Unfortunately, in some localities these menaces to public safety are ignored.

The care of trees now standing is important. This is especially true in areas which suffered greatly from the drought of 1936.

Tree consciousness is awake on the Pacific Coast as well as in other sections of the country.

Two cartoons appearing in the Sacramento Bee issues for March 2nd and 4th, testify to a keen appreciation of street trees and emphasize the fact that a petition for the removal of certain trees has been denied. There are undoubtedly cases where trees on streets should be removed. In rare instances they may be menaces to public safety, though in most such cases the trouble has resulted from a failure to provide suitable growing conditions for the trees. This latter is unfortunately altogether too prevalent in many communities throughout the entire United States and presumably in other parts of the world. There is a general failure to recognize the fact that street trees require moderately rich soil (this need becoming greater when the trees reach a large size), an adequate supply of moisture and conditions which premit reasonable aeration of the soil. Tree roots require air as well as the leaves. The removal of a dangerous or decrepit tree should be followed by thinking back to the cause which brought about the condition and a determination to eliminate, so far as possible, such troubles for the trees still remaining upon the streets.

Aside from the removal of prematurely decrepit trees, there are many requests for the cutting down of others. Sometimes this is to permit the widening of streets and if traffic is sufficiently heavy, this may be necessary. In other instances, the removal of the trees may be desired simply that a driveway may be located more conveniently rather than a few feet to one side or the other, or for unimportant reasons. It is easy to cut down a tree. It is quite another proposition to replace it with an equally satisfactory specimen. Many thousands of magnificent trees are being sacrificed unnecessarily. They are assets which should not be dissipated without due consideration

Occasionally trees have to be removed. Ordinarily this should be done only when there is no other way out.

Cedar rust is a serious trouble on apple trees growing near red cedars.

The season for cedar rust on apple trees is approaching. The trouble starts with the cedar apples now on the red cedars. They develop flower-like, gelatinous horns during one or more wet spells in the spring and produce billions of spores which, under some conditions, may drift a mile or more to the leaves of apple and thorn trees and produce the well known cedar rust. The foliage of infected apple trees, in areas where cedars are numerous, may have a distinct yellowish cast from the numerous rust spots and a considerable proportion of the leaves may drop later. The cedar rust spots on apple produce spores which, in turn, drift in late summer to cedars and early the following spring

cedar apples appear. They increase in size that season and the following spring produce spores. Two years are necessary to complete the life cycle from one host to the other and back.

Red cedar near apple trees make control difficult since spores from cedar apples are produced most abundantly when apple leaves are growing rapidly and repeated sprayings are therefore necessary to keep the constantly appearing new leaf surfaces covered with a protective fungicide. Sprays on cedar in mid-summer and later prevent infection of this host, though the benefit is not evident until the following year. The production of spores by the cedar apples is governed largely by the early spring weather, there being one to five periods, depending on the number of wet spells. These are the times when the leaves of apple and thorn must be protected with spray. The closer red cedar and apples are to each other, the greater the difficulty of securing control. Protection of apple trees the coming season from spores to be produced by cedar apples now upon the cedars can be obtained only by cutting them off and burning them. This is feasible in the case of small trees.

The cedar rust situation presents a nice, though difficult problem for those who desire to grow red cedar and apple trees near each other.

The dogwood club gall is a common deformity on the twigs of the flowering dogwood. The infested tips are killed and there is an appreciable, and in some cases, great reduction in the bloom.

This deformity, as indicated by its common name, is more or less club-shaped and one-half to an inch long. There may be but one swelling with these dimensions, or, in some cases, two, occasionally running together or even distinctly separated on the same stem. Within one may find in a central channel a reddish-orange maggot, about one-eighth of an inch long when full grown. This is the producer of the gall. It remains in the twigs until late September or early October. It then wriggles out, drops to the ground and winters in decaying leaves and other debris under the shrubs.

Several hundred of these galls were collected last fall and carried through the winter under approximately normal woodland conditions. They are now producing midges and the immediate problem is to ascertain which of the several species of the tiny, fragile insects reared causes the gall. One obtained in some numbers is pale yellowish, about one-tenth of an inch long and is believed to live mostly in dead or nearly dead woody tissues. Possibly it is taking advantage of conditions produced by the gall maker. There is a larger, yellowish-orange midge, one-eighth of an inch long, easily recognized by distinct black bands on the antennae and legs and dark shading of the wings. This is probably a predator, that is, its maggots live on those of the true gall-maker. There is also a smaller midge with shaded wings, but without the dark banding of antennae and the legs. This is also a predator. The probabilities are that the true producer will appear later and present quite different characteristics.

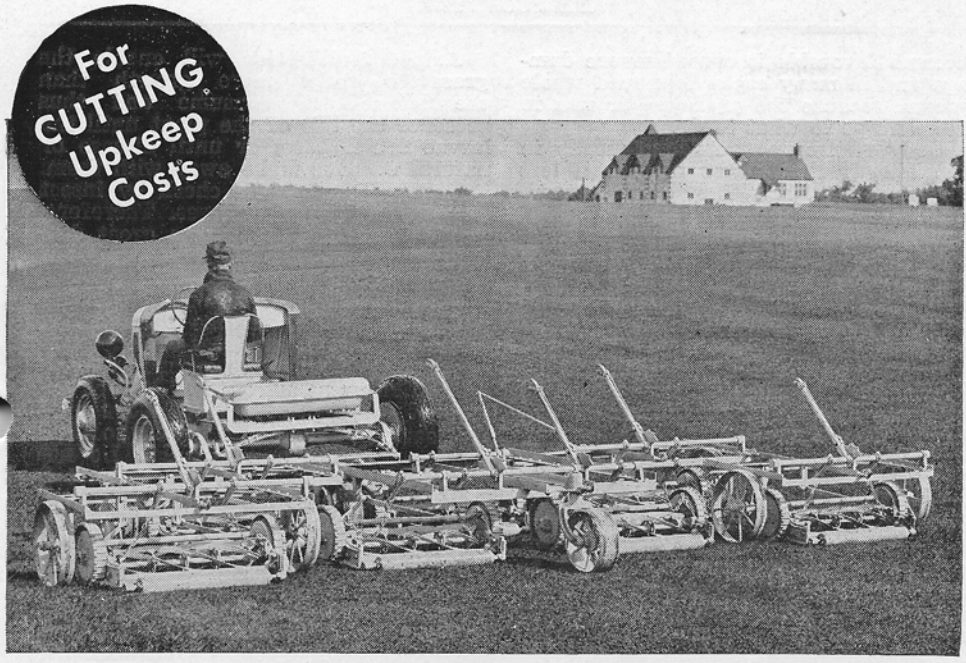
It is interesting that the comparatively simple dogwood club gall supports such a varied series of midges and presents a real problem in identifying the producer and working out a means of control.

WHAT ENTOMOLOGY MEANS TO THE GREENKEEPER

It is a mighty good thing that insects fight so much among themselves; otherwise, they would overwhelm us. Insect species that destroy other insects are themselves destroyed by still other insects. This holds true for insects on golf courses—especially those on putting greens. We know from experience the considerable amount of trouble that has been caused at different times.

When conditions become favorable for insects to work, we find ourselves in a bad spot concerning the control and life history of the insect that has been on the green for years, but has never caused any severe damage. The control measures supplied by the average agricultural college are usually for control of the insect on some type of vegetable. In many cases this same insect is destructive to the fine turf on putting greens. Would it not be a good idea for at least one or two experiment stations to investigate and experiment with the insects that are on turf but have not caused a great deal of damage to date?

Take the sod web worm for example. This has always been on the greens, but up to a few years ago had never caused any trouble. When conditions



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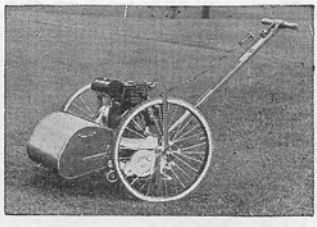

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became favorable it caused severe damage and in many cases destroyed whole greens because the greenkeeper was in the dark as to what to do.

Sod web worms are found mostly in the Mid-western states and to a less degree in the East. They are the group of moths called Cranbids or Snout moths—snout projecting from the head. Adults are usually ½ inch in length with a wing spread of from 1 to 1½ inches. The front wings have designs in gold, brown or black, changing their color as they become older. They are present in open fields and along borders of woods. They like almost every type of grass and especially blue grass and bent. They fly mostly about dusk and drop their eggs while flying. The eggs hatch in about a week into lively little caterpillars that construct tubular burrows of silk and earth among the grass roots on or just beneath the surface of the ground. They emerge at night to feed on the grass blades and often cut them off and drag them into their burrows, where they feed at leisure.

Early in the fall the larvae close the top of their nests and hibernate for the winter and are able to stand the coldest winter. The importance of these insects is very great. While the larva is small the damage is not apt to be noticed. As they become larger, more grass is cut off and a ragged appearance results. Nests are usually perpendicular and are found at or just below the surface of the soil. Excrement in the form of dry green sawdust-like grass is discharged into the distant end of the retreat, finally so filling it that the larva is forced to provide other quarters, which it does by building a second tube or tunnel from the base of the plant in another direction. Four or five such retreats may be constructed and abandoned in turn by one larva in the course of its life. The presence of the larva is most easily recognized by the short stubs of grass blades cut at the characteristic angle of about 45 degrees. The most serious damage is caused when the temperature is around 90 to 100° F, especially if the weather stays at a very high temperature for any length of time. This does not mean, however, that no injury is done except in periods of abnormal conditions. For there is a constant and severe drain on the productive capacity of the sod at other time. Seldom does serious injury occur two years in succession in one locality. Control:

Ample fertilization will enable the grass to make more growth than the larvae can consume and thus preserve the life of the plant until the larvae are mature, or until disease or natural enemies make away with them.

The pest is held in check by insect enemies and fungus diseases. Therefore, apply a top dressing with a great deal of organic fertilizer. That is supplied if possible with plenty of bacteria.

Water the approaches to the greens and keep well moist, as they prefer moist or wet soil, and treat the approach to keep them from the greens as much as possible. Use arsenate of lead at the rate of three pounds per 1000 square feet early in June and 4 pounds to 1000 square feet the end of July. Do not water or cut the green for at least 3 days. There is no damage from the arsenate remaining on the leaves. The reason for not washing the arsenate of lead into the soil is because the young larva seeks a hiding place under and between the blades and remains in the blades and obtains its food. By the time the third or fourth instar is attained the larva is too large to live on a single leaf. And then it makes the small tunnel structure on or just beneath the surface of the ground. Then it feeds by cutting a leaf off near the base and thereby causes more severe damage.

In some cases—especially when the weather is very warm and the grass in poor condition caused by a severe attack of the sod web worm—a great deal of burning has been caused by using a kerosene emulsion solution as an insecticide.

Submitted by
George Holbrook
Clinton Country Club
Clinton, Iowa
(A Winter School Paper)

SEPTEMBER MEETING

The annual club championship was held at the Concord Country Club, Concord, Mass. on September 13th. Due to very heavy rain most of the day, the field was small, and scores were high. The Championship was won by Ralph Thomas with a gross of 85; runner-up was Narry Sperandio with 86. Net prizes were awarded as follows:

Nick Bruno—88-13-75.
San Mitchell—104-28-76.
H. Mitchell—105-28-77.
Simeo Braio—102-22-80.
G. West—99-19-80.

THE WHY AND HOW OF
Commercial Fertilizers

Plants, like animals, require food in order to live, grow and reproduce themselves. Plant food consists of chemical compounds of carbon, hydrogen, phosphorus, potassium, nitrogen, sulphur, calcium, iron and magnesium. The first three are obtained from the air and water. The balance comes from the soil. The most important of the latter are nitrogen, phosphorus and potassium.

Many of our soils after years of cropping are unable to provide the essential elements in quanties needed for the proper growth of the plant. To enrich these soils so that they will become economically productive, fertilizers which contain the needed plant food elements are supplied. Impoverished soils are not only made to increase their yields, but soils naturally lacking in one or more of these necessary foods may be brought into a state of fertility through the use of a proper fertilizer.

Fertilizers are divided into two classes, dependent upon their source. The two kinds are—

(1) Inorganic Compounds or Minerals
(2) Organic

The inorganic compounds or minerals are such as nitrate of soda, ammonium sulphate, phosphate rock, acid phosphate, etc., which are taken directly from the earth, purified and broadcast on the soil. Such products are usually directly available to the plant and accordingly are used at once by the plant. Being so readily available, if used alone, a considerable portion of their fertilizing value is lost through erosion, leaching and washing away. If these products are used alone in excess, harm may come to the plant, and care must be taken when using such products.

Organic forms of fertilizer are such as animal or fish tankage, various forms of bones, cottonseed meal, castor pomace, animal excretions, etc., which are more slowly available to the plant and supply a steady source of plant food over a long period, and also serve as a humus and soil lightener.

When buying a fertilizer, it is well to have particulars of the products from which it is made, and following this will be found a brief summary of the sources of supply of the most important plant food elements.

Nitrogen

Nitrogen is a gas and as such cannot be assimilated by the plant, except in the case of legumes, and so in fertilizers it is always supplied combined with other elements, and is generally spoken of in terms of "ammonia" in which form the plant receives it. It is the most expensive plant food element entering into the manufacture of fertilizers and is the fundamental element of vitality in either plants or animals. Nitrogen also promotes leaf and stem growth, imparting a green color to the leaf.

Phosphorus

Phosphorus is the one element of the essential plant foods that must be used in greatest abundance. Phosphorus is derived from compounds called "Phosphates." It is not only a plant food itself, but causes chemical changes in the soil that break up insoluble compounds and set free other plant foods contained in the soil. The chief function as a plant food is to produce and increase the quality of the fruit and to stimulate an early root formation, giving the plant a vigorous start and hastening the maturity of the crop.

Potassium

Potassium in a fertilizer always means the compound containing potassium and oxygen known chemically as "Potassium Oxide," or commercially as "Potash," or "Actual Potash." It is considered of relatively less importance than either nitrogen or phosphorus, as good soils are naturally richer in this element. It is essential for cotton, corn, tobacco, and in tuber crops, such as potatoes and beets. Potassium imparts tone and vigor to the plant, aiding in the formation of the woody fiber in the stalk and decreasing susceptibility to plant diseases. Potash is never found pure in nature, but invariably in combination with some acid. The original source of potash was "Wood Ashes," but due to economic conditions, this source had to be supplemented. The main source at the present time is from German and French potash salt deposits.

(from a John C. Dow Co. circular)

"I want to buy three lawn mowers."
"You must have a pretty big place."
"No, but I have two next-door neighbors."

Our able reporter from New Jersey, Kent Bradley, recently sent us some clippings from his paper, the North Jersey News. The following are some which may help or amuse:

Inspection points the way to protection.

Spendthrift

Mrs. Meeker: "John "

Mr. Meeker: "Yes my dear."

Mrs. Meeker: "There is a corner torn off your pay check. What did you spend it for?"

The portly man was trying to get his seat at the circus. "Pardon me," he said to a woman, did I step on your foot?"

"I imagine so," she said after glancing at the ring. "All the elephants are still out there. You must have."

Prospective tenant to landlord: "Nice place you have here. Is it free from cockroaches?"

Landlord: "There isn't a single one around."

Voice from the alley: "Correct, they are all married and have children."

Definitions

Executive—A man who makes decisions quickly—and is sometimes right.

Monologue—A conversation between a student and a professor.

Highbrow—A person educated beyond his intelligence.

Social Tact—Making your company feel at home, even though they wish they were.

"What's this?" asked the Scotchman excitedly, glancing at the headlines of the newspaper at the news stand. "Edinburgh Express wrecked near Dundee?... And my wife was on that train," he said as he turned to walk away.

"Well, aren't you going to get a paper and read the details?"

"Oh, I'll wait for the later edition and get the football news at the same time."

Gold Digger

A gold-digger is a gal who prefers heavy sugar to honeyed words.

Bigger Battlefields

The old narrow trails where two cars could barely pass without colliding are happily being replaced by splendid wide highways on which six or eight cars can collide at the same time.

Wife: "Darling, the new maid has burned the bacon and eggs. Wouldn't you be satisfied with a couple of kisses for breakfast?"

Hubby: "Sure, bring her in."

Half Rates

"Make me a child again, just for tonight,"
Once said a Scotsman—and Scotsmen are tight.
"I'm leaving tonight on a rail trip to Ayr;
Make me a child and I'll travel half-fare."

Officer (to colored driver who has been whipping his horse): "Don't whip him, man—talk to him."

Driver (to horse, by way of opening the conversation): "Ah comes from N'Awleans. Where does you-all come from?"

An Australian newspaper printed a delightful church notice which reads:

"Miss Jenkins will sing her farewell solo; 'Thanks Be to God'."

A Boston newspaper discovered it and gave it the headline, "Welcome Relief."

Case of Explorer's Fright

"Do you believe a rabbit's foot ever brought anybody good luck?"

"You bet! My wife felt one in my pocket once and thought it was a mouse!"

(Bank Notes)

"Your husband suffers from voluntary inertia."

"And, to think, I accused him of being lazy!"

(Bank Notes)

"Who is that man over there snapping his fingers?"

"That's a deaf-mute with the hiccoughs."

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The convenient power take-off not only runs the sickle bar attachment by a direct power connection, but with pulley and belt also runs compost mixers, power sprayers, rotary brushes, pumps and saws—saves cost of extra equipment. No other golf course tractor has this feature—think of the savings to you.

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