NEWS LETTER

"Solve the problem of year round sport for club members, and you will make one of the finest social contributions to America, by strengthening the home ties upon which is the foundation of America."

(from address of Dr. Ernest Hermann at Recreation Conference.)

MARCH

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TWO YEARS AT THE GREENFIELD COUNTRY CLUB

The Greenfield Country Club is a beautifully situated eighteen-hole golf course, lying in the valley of the Connecticut River, at the foot of the Berkshire Hills. Not only is the surrounding country beautiful, but the course itself is beautiful, affording a fine golf course terrain. It is a comparatively easy course for the professional and low score golfer, but is a heart breaker for those who cannot steer a middle course.

We have poor tees, good fairways, and some fair greens, the greens getting some fair greens. The greens getting past two years. I would like to discuss them first and at length.

The construction of some of these greens was very poor, not only from the golfer's point of view, but from the greenkeeper's point of view. For example, when the greens were built, apparently no thought was given as to what was the best soil to use for greens. We have two greens which were constructed on gravel, with a very thin layer of loam being put over the top of it. On both of these greens it is possible to put a sprinkler at 8 p. m. of a given day and leave it on until the following day at 7 a. m. and then to put sprinklers on the same greens that night and leave them on for the same length of time, not only without puddling, but 8 or 10 hours later they will have a dry hard appearance. We have also had the pleasure of removing rocks or boulders, as large as a man's fist, when placing cups. Once we had the grand (use your own adj.) experience of removing a piece of 2x4 before being able to put in a cup.

Then there are two greens which are built on clay, that originally had absolutely no drainage system. To describe the pleasures of growing grass on these greens might cause the Newsletter to be banned in Boston, as obscene literature.

Therefore it has been necessary, from the beginnig, to try to counteract the conditions on these greens by spiking in top-dressing. In two years much has been accomplished in this way. The first job was to find the proper loam. This was very hard to do, as this part of the country seems to have much clay, silt, and even sandy soil, but materials containing large amounts of humus are almost impossible to find. However, after much searching we were able to purchase some muck. We have been very careful to prevent layering of this humus.

Of course on those greens composed mostly of Clay, we have used a sandy loam, mixed with straight sand, and spiked into the green to endeavor to open them up.

We have mixed our fertilizers with the loam when topdressing. We find it the wisest procedure in our case, to mix the fertilizer and loam at the green.

I believe the best method, if it is possible to have a place to mix and keep it, is to mix and store it during the winter months and eliminate using labor on this task, during a time when you are most busy. We have not the facilities for this.

The fertilizers used have been few. They have been confined to: Sewage Sludge, Sulphate of Ammonia, Superphosphate, Muriate of Potash and Ground Limestone.

Some of the greens had been badly burned by Castor Pomace three years ago. This was not due to an over application, but to the fact that the Pomace was too oily. I had always believed in Sewage Sludge, but needless to say this materially strengthened my belief in it. It may be slow, but it's safe. Another point that brings out this fact, is that Castor Pomace poisons some people. Nevertheless, I do believe that with careful attention in picking out the right Castor Pomace and by the proper precautions to prevent sickness among the men, the very best of results may be obtained with it.

On golf courses lacking plenty of money, it is not always possible to take proper precautions, when using dangerous fertilizers. That is and has always been the case at the Greenfield Country Club. Because Sewage Sludge

is safe and sane I believe, that by using it, as we have, for the past two years, it has been one of the biggest if not the biggest factor in the improvement of the greens. It seems foolproof. We have been able to apply it on the hottest day in July, often allowing it to be on the green for a considerable length of time before watering. We have had absolutely no ill effects resulting from it. Had a dangerous fertilizer been necessary, I believe that we would have had ill effects or the greens would have been made to go hungry temporarily, which might have given much trouble. This is still more deeply emphasized when it is realized that we often had no alternative, but to apply fertilizer in the sunny hours of the day, because of the lack of labor and the necessity for devoting a tremendous amount of time to watering in the early morning, evening, and night.

The rate of application of Sewage Sludge depended, in our case, on the condition of the green. In the spring and fall the average green received 15 lbs. to 1000 sq. ft., some greens receiving as much as 20 lbs. to 1000 sq. ft. When applied in the summer it was cut to about 2/3 of the spring and fall applications. Sulphate of ammonia was applied either with or as soon as possible afterward, which application quickened the action of Sewage Sludge.

In using Sulphate of Ammonia, we have been particularly careful, applying it often and in small doses. In two years just 2100 lbs. have been used. We apply it mixed with dry sand, and broadcast it carefully by hand. It is carefully watered in, so as not to have it become concentrated in any one spot.

Superphosphate was applied in the topdressing always. I think it wise to do it this way, because the moisture in the loam prevents it from blowing away, which it so easily does when applied with sand or alone.

We applied Muriate of Potash only to those greens which needed it.

This past fall we started a program of applying ground limestone, which we hope to continue through the spring.

There was much trouble with crows the past two years. We have noticed a very curious thing in regard to them. In 1932 we attempted to shoot them, and after shooting two or three of them they gave us very little trouble.

In 1933 they had become so "cagey" and cautious that it was impossible to get close enough to shoot them. After awhile they would just play "hide and seek", and thumb their respective noses at us. Finally, in desperation I decided that it might be possible to control their activities by applying the late summer application of arsenate a few weeks earlier.

We first tried two or three greens and "believe it or not" there was an immediate and absolute stop to vandalism on those greens receiving the application, but the war still raged on all the rest of the greens. We then arsenated the rest of the greens as quickly as possible, with the same results, and the war was over. My hat is off to them for they are clever. These crows were after dead June Beetles. We have had no trouble from worms since using Arsenate.

Chickweed was fairly well established on the greens two years ago, but due to the steady application of arsenate of lead, we are well rid of it.

Crabgrass was very thick in 1932. The Board of Directors voted $400 to eliminate it from the greens, by hand labor. It was thoroughly cleaned out with $250 worth of labor. In 1933 we spent less than $70, and we could only find it around the edges of the greens, where it was evidently tracked in from the fairways.

We fought Brown Patch with Calomel and Corrosive, applying it at the rate of 2½ to 3 ozs. to 1000 sq. ft. depending on the severity of the attack. We apply this mixed with sand. It has proved successful in controlling Brown Patch and also in controlling snow mold.

Mr. MacLean greenskeeper at "The Brattleboro Country Club" had equal success in controlling Brown Patch, merely by poling his greens vigorously every day. This ought to prove there is plenty of foundation for the belief that poling will control Brown Patch.

During this past year we ran the course with not more than 4 men and myself. A good part of the time we ran with three or less. It is easy to see that we have to be efficient as far as it is possible to be efficient on a golf course, as we have to mow the greens 4 times a week when they are growing fast. We cut them at ½ inch in the early spring and they are gradually brought down to ¼ inch. In mid-summer they are raised slightly when they show signs of weakening. This year we hope to lower them to 3/16 of an inch.

In view of the above it was very natural some 4 or 5 years ago, for the

club to turn to power mowing as a partial solution to their labor problem. It proved to be a very expensive economy.

Two years ago there were large bare spots on practically all of the greens, due to the ravages of this power mower, which was being continually turned in the same spots on each green. We discarded the power mower temporarily, in order to give these spots a sufficient opportunity to recover.

They eventually came back, and we proceeded to use the power mower again. After a month's time we began to see traces of wearing even after taking careful precautions to try not to turn in the same place too many times. We have not used it since, except in an extreme emergency.

Power mowers will undoubtedly improve to the point where they will be practical, but at the present time they are in the experimental stage and any buyer should step cautiously. I also believe that the construction of greens must be brought around to conform to the peculiar requirements of a power mower.

Dealers therefore should at first determine whether a power mower may be used successfully on a given golf course, before trying to sell one there. Otherwise it may prove to be a very poor form of advertising, as was the case on our course, where the finger is pointed by prospective buyers, as an example of why we do not want to buy a power mower. Of course if the dealer should take precautions, then the greenskeeper should be doubly careful.

On the matter of tees there is very little to be said. In 1932 we attempted to topdress the tees with tailings left over from the greens. This was rather detrimental than helpful as we have no water on the tees to keep them from burning. In 1933 we did nothing to them except to cut them. You may judge that they are in very poor condition and they are.

A remarkable thing about this is the fact that not one member nor, for that matter, the guests have complained about the condition of the tees.

I chalk this up to either one or two things; the depression has made golfers far less critical, or that the importance of good tees has been over-emphasized.

We have been able to do very little for the approaches until 1933. Picking out those which were worst we topdressed and fertilized them and the results were so gratifying that I believe the club will go to any lengths to continue the work.

We have only recently begun a turf nursery which has not come along very well.

Nothing has been done to help the fairways, except to cut them as regularly as possible. These fairways certainly can "take it", for during the past two dry summers there has been, what looked like a complete fadeout, but with the arrival of fall rains, they jump back into activity. I think that with continued neglect they will eventually "throw in the sponge" and "quit for good".

Realizing the importance of fertilizer on them at this time a program of fertilizing over a period of years was recommended. Because of financial setbacks it has not been possible to get started on this.

Most of our rough is mowed with a three-unit fairway outfit set high. In the very stony and irregular rough, a side bar attached to a Fordson Tractor does the trick.

George J. Rommell, Jr.

SOME NOTES FROM LECTURE BY KENNETH WELTON AT R. I. SHORT COURSE

It is unfair to compare budgets on golf courses unless all factors are considered.

The most important economy is in labor, as this covers about 70% of the budget.

The demands of the members keep up the course standards.

Savings are often possible by planning to eliminate waste and duplicity of effort; by the use of machinery; rough can be neglected; size of greens can be cut; sand traps may go unraked; clay tees may be used as a last resort.

Fix up for economy maintainence later, such as filling in unnecessary traps.

From 40,000 to 80,000 weed seeds have been found in a cubic yard of compost in tests made, weeds including crab grass, chickweed, clover, poa annua. Soil bed method for preparing compost is preferable to pile method.

Soils for a new green or tee should have at least 10% organic matter.

Mucks are liable to be toxic, peats are not.

Moss peat is acid, around 4.6, if used in quantity needs lime; other peats are nearly neutral. All need moisture. Bacteria are stimulated, soil starved for N. for awhile; soak after mixing before planting, and use one application of at least 5 pounds to 1000 square feet of sulphate of ammonia.

Organic matter in soil may be increased through cropping, by fertilizing existing turf. The inorganic fertilizers will increase the organic matter as much at least as will organic fertilizers.

"SELECTION AND CARE OF TREES"

by A. W. Dodge

(R. I. Short Course)

Trees shade, outline fairways, minimize glare.

It is unwise to attempt to move trees over 4 inches in diameter for golf courses.

Hesitate to use elms, outcome of Dutch elm disease unknown as yet.

To block out undesirable views, use weeping willow, honey locust, hackberry.

Pines should not be used near fairways or greens, needles are harmful to grass.

Along fairways, white birch with an evergreen background gives a very good effect.

Most greenkeepers are working with established trees.

On the golf course, conditions for tree planting are much changed from the ideal of Nature's conditions.

In feeding trees, the trench method and surface feeding are condemned; crow-bar method is best, making holes 18 inches deep. Holes really aerate soil. Deep feeding attracts roots down, and tree is less affected by dry weather.

Thin gradually, because of sun scald.

Cavity work is not so important; decaying wood should be taken out as good as possible, paint with bordeaux paste; try to arrest decay; brace and bolt tree. Greatest source of loss is windstorms. 3/8"—7—strand cable is best for cabling, cable is attached to eye bolts, through bolts, do not use lag screws, 5/8" bolt. On nut end of bolt use washer same size as nut, round or oval; counter-sink washer just under bark. The eye of bolt should be close to tree; always use thimble in eye of bolt. On smaller trees, ¼" cable and ½" bolts can be used, but use for the

future. For splits, use wood screws, parallel bolts. Some attention is now being paid to lightening protection.

Spraying for the various insect pests is very important.

Keep trees vigorous and healthy and there will be much less trouble. Tree work is divided into (1) Treating results, (2) Preventive work, (3) Feeding, to build health and vigor.

RECREATION CONFERENCE

What was probably the largest attendance at any conference of recreation activities gathered at the Massachusetts State College on March 16, 17, 18. The Conference was divided into Forestry, Landscape, and Golf Sections, and were several different discussion groups in each of these divisions. Speakers of National importance included Herbert Jaques, President of the U. S. G. A., Adrian Sawyer, of the M. G. A. Service Section, J. B. Mackie, Treas. of the P. G. A., Dr. A. P. Dachnoski-Stokes of the U. S. D. A., Prof. H. F. A. North of R. I. State College, Dr. Ernest Hermann, Director of Sargent School, Herb Graffis of GOLFDOM, William Perkins of Yale, Dr. Beaumont, Prof. Waugh, Prof. Dickinson, Dr. Baker of the Mass. State Faculty, and many others. A very fine exhibition was held in the cage of the Physical Education Building.

Space in the NEWSLETTER prevents us from giving a detailed report of the many fine things heard and seen at the Conference, but we will present several HIGHLIGHTS.

Formula for attacking a problem, as given by A. C. Sawyer, "Observe, record, collect, conclude."

"Golf is a simple game, but is the most moral game we have, man must have character to play it".

—Dr. Hermann.

"A budget to a greenkeeper should not mean dollars, but rather should mean labor hours".

"The greenkeeper is operating a continuous factory, and savings for one year should be saved for the golf course".

"As dollars go down, standard of maintainence goes down almost the same".

—Prof. Dickinson.

"Say to the chairman, that costs are bound to rise this year, definitely 20%, plus an increased cost of equipment".

"Golf club officials know little of their clubs financial score".

"Big problem is to get club officials to know what the score is, and show them by plenty of figures".

—Herb Graffis.

"Turf requirements for different sports are as varied as are the sports themselves".

—William Perkins.

"There should be a greater use of club property".

"Don't be discouraged about 1934".

—Herbert Jaques.

ORGANIC MATERIALS FOR SOIL IMPROVEMENT

by Howard B. Sprague, Agronomist
N. J. Agri. Ex. Sta.

The soils of this region are, in general, seriously deficient in organic matter. Soils containing an inadequate supply of humus are low in water holding capacity, readily compacted, poorly aerated below the surface, incapable of retaining plant nutrients, tend to form an impervious crust, and otherwise provide unsatisfactory conditions for plant growth. Under natural conditions, decomposed leaves and roots of plants increase the organic matter content of the soil. When soils are brought under cultivation, the opportunities for maintaining the humus supply are not adequate and the soil gradually becomes more and more deleted unless humus is supplied by artificial means.

In general, cultivated plants prefer a liberal supply of soil humus for optimum growth. Improvement of the organic matter content of practically all soils is therefore desirable, and is essential on soils that are markedly deficient in humus.

Well-rotted manure is a well known source of organic matter for soil improvement. Its principal disadvantages are the inevitable weed seed content, relative scarcity, and high price. Manure improves the physical condition of soils upon incorporation, and in addition contributes a small amount of plant food. The organic matter of manure decays rapidly, less than 10% of the dry matter remaining in the soil as humus

after 2 or 3 years have elapsed. Consequently, this material may be added to soils every 2 or 3 years without any marked permanent improvement of the soil. As long as manure persists, however, the soil is greatly improved in structure, moisture holding capacity, aeration, etc.

Substitutes for manure are quite satisfactory and frequently superior, if properly employed. Spent mushroom soil is approximately 30% rotted manure and may be used accordingly. The principal difference lies in the more rapid decomposition of the organic substance present, and the clay content which manure lacks. Spent mushroom soil is of greatest value on shaley or sandy soils which require both clay and organic matter for correction of their deficiencies.

In general, there are 3 types of peat frequently utilized for soil improvement: **Peat Moss, raw native peat,** and **cultivated native peat.** The peats do not carry appreciable amounts of plant food, and are valuable primarily for the improvement effected in the physical condition of the soil following their incorporation. Their plant food deficiencies can be readily and cheaply overcome by the use of commercial fertilizer.

The speed with which the various peats decompose after incorporation with the soil, is a partial measure of their value. Peat moss decomposes most rapidly and leaves the smallest supply of permanent humus in the soil, native peat is more persistent and the equal of manure in this respect, whereas cultivated peat is by far the most resistant material. All of these substances will improve the physical condition of soils if properly used. Peat moss and raw native peat should be allowed to decompose in the soil for a period prior to planting, particularly on open textured soils.

The quantity of organic matter required will depend on the character of the soil, and the organic substance used. One to two pounds of the materials mentioned above, per square foot of surface, is a normal application. All organic substances should be thoroughly mixed with the upper 3 or 4 inches of soil to obtain the full value of the material. Top dressings of pure peaty materials on turfed areas are of little importance except for the limited plant food which they supply. Layers of peat occurring below the surface of the soil on grassed areas, will inevitably cause difficulty with the turf, even though the immediate effect may appear desirable. Spiking or discing will aid in incorporating organic materials on established sod, where it is not practicable to plow or spade the soil.

The peats may be used successfully, in place of manure, for composts. A complete fertilizer analyzing approximately 8% nitrogen, 6% phosphoric acid, and 4% potash should be incorporated with the peat at the rate of about 200 lbs. per ton in the preparation of the compost heap, in order to compensate for the recognized nutrient deficiencies of the material. The quantity of organic matter added to the compost varies with the type of organic material used. In the case of manure approximately one ton of manure is supplied for 3 or 4 tons of soil. Raw native peat is added to the compost pile at proportionately the same rate as manure when both materials carry an equal percentage of moisture, **air-dry peat** moss at one-half the rate of moist manure, whereas cultivated peat may be added in smaller amounts to produce an equivalent effect, since it is far more persistent than the other peats. One pound of moist cultivated peat is equivalent to 2 or 3 pounds of moist manure in its final effect on the compost. Composts constructed of peat moss or raw native peat should be kept moist to promote decay of the organic material, and allowed to undergo decomposition for several months before use. Cultivated peat composts require considerably shorter periods of decomposition, and in emergencies may be used immediately providing the soil and organic matter are thoroughly mixed. Suitably prepared composts made with peaty materials may be applied as top dressings to turf, with fully as great benefit as manure composts.

We have recently received an announcement of the Third Annual GREENKEEPERS SHORT COURSE at the Iowa State College on March 5 and 6. Over 80 greenkeepers from Iowa and adjoining states were in attendance.

The April meeting will bring to you as speakers several dealers, and all dealers and equipment men are cordially invited to be present. April 2, Woodland Golf Club, Auburndale, Mass. at 2.30 P. M.

ABOUT FAIRWAY WATERING

Some observations from the talk of Prof. Dickinson on Sunday morning are of especial interest, as they give many reasons why the golf club thinking of fairway irrigation should pause and ponder before going ahead with plans.

It is the duty of the greenkeeper to acquaint the Greens Committee with the advantages and disadvantages of fairway watering.

Fairway watering correctly managed is all right.

No club should be without a fairway watering system if they can afford the price, but the price is high. Also the possibilities of disappointment are rather high.

Competition demands a water system. Is it needed to attract, and how many can safely be added to course that course can safely accommodate? How far will initiation and dues of attracted members go toward increased cost of maintainence?

Fairway watering is seldom needed here in New England except during July and August. There are not many acres of turf actually lost because of dry weather. How many members are playing during July and August? Is the benefit for a fortunate few? Do added greens fees help enough to make it worth while?

Addition of water to fairway will increase costs, but will give greater enjoyment. Mowing costs will be increased.

Normal rainfall is sufficient for turf needs, but distribution is not always right.

Will the green chairman be sensible and not use too much water once he gets it available.

Water requirement of turf grasses is not high. More soil fertility will be used when water is added, will the greater amount of clippings be sufficient?

Scores will be higher.

Because sprinkler has to be shut off when low spot has enough, higher areas will still need more.

There will be a possibility of greater need of better fairway drainage. There will be greater loss by leaching.

No one but a reliable irrigation engineer should be permitted to design a system. Water should be analyzed for chemical impurities, also for any cumulative affect from same.

Has your greenkeeper a sufficient knowledge of cultural practices to handle water system?

Fight for temperance, a conservative use of water.

Report on Sixth Annual Short Course in Turf Management Conducted at Rutgers University, New Brunswick, N. J.

Dr. H. B. Sprague

The Sixth Annual Short Course in Turf Management was conducted at Rutgers University, New Brunswick, N. J., February 19-23, inclusive, 1934. In spite of exceedingly unfavorable weather, the course was attended by 26 men, a majority of whom represented golf clubs from Massachusetts to Delaware. The course was one of the most interesting experienced, and both the individuals attending and the teaching staff fully enjoyed the opportunity of exchanging ideas and information on this subject. Abstracts of the various lectures were provided so that there was complete freedom for attention to the various addresses and discussions of the application to turf problems.

A new feature was introduced this year, namely, that of holding a dinner on the last day of the course, at which certificates of attendance were presented to those who had merited them. A considerable part of the speaking at the dinner was provided by the members of the short course. Representatives of the New Jersey State Golf Association, the New Jersey Greenkeepers Association, the New Jersey Shade Tree Commission, and several of the County Park Commissions of this region were present at the dinner.

The March meeting was held at the Hotel Statler, Boston, on March 5th. Mr. William Monks of the Ford Motor Company gave a very interesting and instructive talk on the Ford engine.

Paul Wanberg of Weston Golf Club was among those who attended the annual Greenkeepers' Short Course at Rutgers University College of Agriculture last month.

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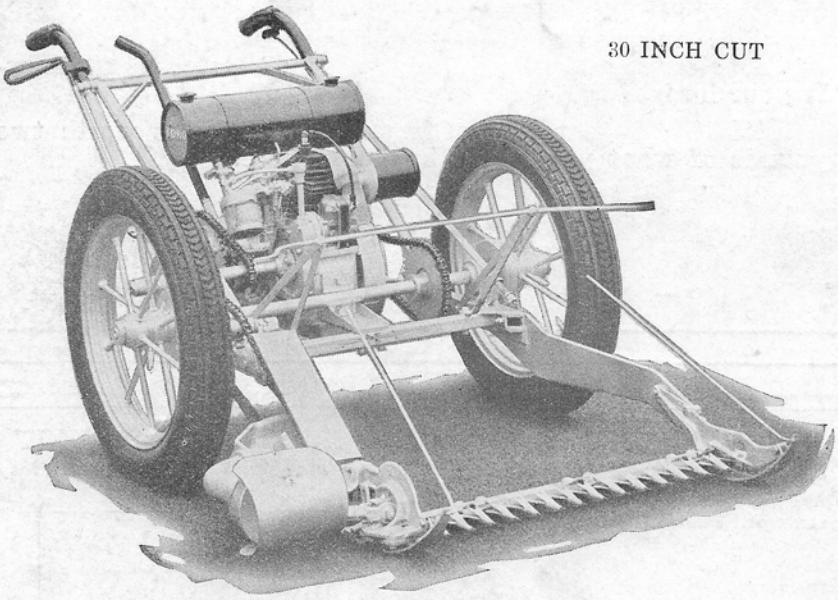

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