

This type of machine reaches out over an area of about eighty feet and if the material can be procured within close range, a green can be constructed in the rough grade, the soil being moved twice, and the cost still be less than if done by any other method. All the labor it requires is that of the operator and a helper for the rough construction.

The finishing can be done in most cases with about six men. Stripping of top soil off the site of the green may be done either with a skimmer boom or a shovel boom. Of course if the top soil is deep, a drag-line may be used. The drag-line can also be employed in the construction of all traps on the fairways, for construction of tees and for burying of stone walls, etc.

For the removal and dumping of stone walls in the vicinity, I prefer to use iron mules on caterpillar treads. These can transport three yards of stone at a time and can be loaded with a small gasoline shovel or a crane. When there are rocks to be blown, a compressor should be used for the drilling.

THE REMOVAL OF TREES

IN the removal of trees, I much prefer to use a patented machine put out by a New York firm of years of experience with expert workmen, that is, of course, if there are a number of trees sufficient to warrant the use of it. This machine will pull over a tree of any size and extract the root from the ground in about five minutes, and clear the ground ready for the plough.

Another handy machine is a grader. This is on caterpillar treads, and having a deep blade in front, set at an angle or straight, as required. This machine is good for getting a fine finish to the fairways, and if a small hill is selected for a green site, it can be flattened out with the grader.

On a course which I laid out recently, it was necessary for me to deepen a brook that ran through a swamp. The brook was about four thousand feet in length. I put a gasoline shovel in to dig it out. We had wooden mats for the shovel to sit on. I found however, that the process was to be a slow one, so I decided to blow it out with dynamite, in four hundred foot sections. This worked out very well.

With a crowbar we made four rows of holes two feet apart. In each hole we placed a stick of dynamite.

(Continued on page 42)



Concealed or Pop-Up Tee Sprinkler

Special Engineering Service For Turfed Areas

TOPOGRAPHICAL MAPPING

Golf courses require accurate topographical maps to record every detail of the course facilities. The delineation peculiarly required for golf topography is best portrayed by Miller engineers who are used to ground and aerial-ground mapping for drainage, irrigation, and layout. If you lack complete maps, write Miller for prices.

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Soil technology—the field and laboratory examination of soils—and the interpretation and practical application of these to turfing. If you doubt the wisdom of your expenditures for soil conditioning and fertilization, or if you have a soils problem to solve, send for a Miller engineer.

SOIL EXAMINATIONS FERTILIZATION PROBLEMS

Drainage of difficult soils demands the highest degree of engineering skill, experience, and soils technology. The reputation of Miller engineering was first established in the successful solution of intricate drainage problems. When your drainage system fails, or if you are planning substantial drainage construction, you can give finality to this facility by having Miller engineers design your work.

WATER SUPPLY

The water supply requires careful engineering to secure low cost water. Long experience in developing water supplies under widely diverse conditions has peculiarly fitted the Miller organization to cope with the hydraulics and economics of your water supply.

LOW COST IRRIGATION

The Miller one-man hoseless, tee, green and fairway water systems cost little more to construct (if any) than good hose systems. If you are contemplating fairway irrigation, we suggest that you consult with Miller engineers in order to secure the most and best for your money, and avoid the mistakes common to locally engineered projects.

"TROUBLE SHOOTING"

For over ten years the Miller organization has carried on an advisory maintenance and consultation service, meeting and overcoming troublesome turf situations. When you have on hand trouble which is likely to prove embarrassing, write, phone or wire for

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CONSULTING ENGINEERS

— Soil Technologists —

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Chicago, Ill.

85 East Gay St., Columbus, Ohio

Grass Seeds In America

By PROFESSOR THEODORE E. ODLAND

Read at the 5th Annual Educational Conference of the National Association of Greenkeepers of America, held at Columbus, Ohio, February 3-6.

EVERY greenkeeper who has at any time seeded down either greens, fairways, or tees knows the importance of using good seed. All the effort and money which has been spent in getting the greens or other areas ready to be seeded goes for naught, at least for the time being, if a poor lot of seed is used.

At this point the item of good seed is one about which hinges the success of our entire program. Since the securing of good seed of an adapted type or variety is such an important consideration to the greenkeeper, it is well worth our while to briefly consider where some of our grass seeds are produced and where others are obtained.

Before going into the details of where and how our commonly-used grass seeds are obtained it may be well to mention briefly what are the chief essentials of good seeds. In the first place the seed should be of a type or variety that is suitable for the climate and soil where it is to be used. A careful consideration of this item is, of course, important. In the second place the seed itself should be of good quality. Good quality includes high germination and a reasonable degree of purity. It should be free from noxious weed seeds and contain a fair degree of freedom from chaff, dirt, and other inert matter. There are other considerations also which we might mention that enter into good quality of seed but the above are the more important ones.

The grass seeds which we use most on our golf courses are partly produced in this country and partly imported. In this paper only the more important ones will be considered. The figures on the



THEODORE E. ODLAND

Mr. Odland is agronomist at the Agricultural Experiment Station of Rhode Island State College, located at Kingston. He has had many years' experience in the growing of fine turf, particularly the bents so much used in our golf courses.

acreage and amount of seed produced have been obtained from a number of different sources including growers, seed dealers, experiment stations and the U. S. Department of Agriculture.

THE BLUEGRASSES

THE two chief kinds in this group are Kentucky bluegrass (*Poa pratensis*) and Canada bluegrass (*Poa compressa*).

Kentucky bluegrass seed is produced chiefly in Kentucky, Missouri and Iowa. The annual production in this country ranges from two to fourteen thousand tons. The past year the production was estimated at about five thousand tons. Very little of this seed is imported. The average imports

have averaged only a little more than a ton annually for the last 10-year period.

Canada bluegrass seed comes mainly from the province of Ontario in Canada. The average imports into this country have been 454 tons annually for the last 10-year period. We produce very little of this seed ourselves.

THE FESCUES

THERE are a number of fescues which are used to a greater or less extent on our golf courses. The only one that is grown to any extent for seed in this country is meadow fescue (*Festuca elatior*). From seven hundred to twelve hundred tons are grown annually and this is produced almost entirely in the State of Kansas. This fescue is used on golf courses chiefly for mixtures on fairways or on the roughs.

Red fescue (*Festuca rubra*) is also used chiefly in mixtures. It is used in mixtures for greens, tees

and fairways. No seed of this fescue is produced in this country as far as the writer has been able to find out. Some red fescue seed is produced in the province of Alberta, Canada. Practically all our seed of this species is imported from Europe.

Chewings fescue (*Festuca rubra* var. *fallax*) is a non-creeping strain of red fescue. It is adapted for the same conditions as red fescue. This fescue is also known as New Zealand fescue. Our supply comes chiefly from that country.

There are several other fescues of minor importance on the market which are adapted for mixtures for special conditions. The seed of these is nearly all imported from Europe in small quantities.

THE BENT GRASSES

THE most important grasses used in this country for golf greens are included in the bent grass group. This group includes Redtop, Rhode Island (Colonial) bent, the Creeping bents and the Velvet bents. As with the other types mentioned in this paper only the more important strains or varieties will be considered here:

Redtop (*Agrostis alba*) is much used in mixtures for greens, tees and fairways. There are no strains or selections of redtop on the market but the seed is all sold as just redtop. Experiments have shown, however, that it is possible to make selections of this grass and to get strains that are much finer than the ordinary kind in common use. It may be that in the not so distant future we may be able to develop a strain or strains of redtop that will retain the vigorous, quick-growing habit of this grass and still be of the finer quality that is so much in demand on our golf courses.

Redtop seed is produced chiefly in southern Illinois. The annual production ranges between three and nine thousand tons. Practically no redtop seed is imported.

The creeping bents (*Agrostis palustris*) make up a whole group in themselves. There are a number of very distinct strains of creeping bent in use on many different golf courses. Some of the better-known strains include Metropolitan, Washington, Virginia, Narragansett, Flossmoor, Columbia, and Seaside. Astoria and Oregon bent are two newer types which are regarded by some authorities as belonging to the true creeping bents, others regard

A REMEDY for thin, undeveloped fairways

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When fed systematically with Armour's Special Turf Fertilizer a deeper, more vigorous root system is developed. A thicker turf results, covering the thin places. Properly fertilized fairways and greens are better able to stand the hard use and abuse of a long playing season.

Well-developed turf on fairways and greens means satisfied golfers — more play — greater revenue.

Write for the booklet, "Solving the Turf Problem." It will tell you how to improve your course through a systematic feeding program.

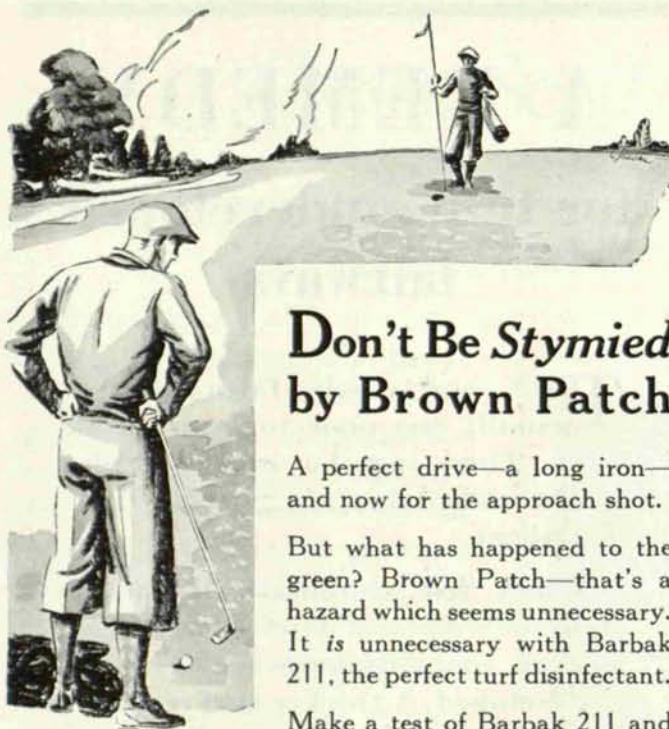
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Don't Be Stymied by Brown Patch

A perfect drive—a long iron—and now for the approach shot.

But what has happened to the green? Brown Patch—that's a hazard which seems unnecessary. It is unnecessary with Barbak 211, the perfect turf disinfectant.

Make a test of Barbak 211 and you will find that Brown Patch will travel over plots of untreated turf and stop precisely on the line of the area treated with Barbak 211. This is the experience of Robert Duguid, superintendent of the Evanston Golf Club of Illinois.

As a preventative, Barbak 211 protects against Brown Patch for a longer period than ordinary disinfectants. One well-known greens keeper places this at 42 days. As a cure, it checks the fungus immediately and quickly brings back a normal stand of turf.

Barbak 211 may be applied in solution or dry, mixed with a top dressing, sand or fertilizer and watered in. Write us for further facts.



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TURF DISINFECTANT

them as strains of Rhode Island or Colonial bent, while still others consider them as belonging to a distinct species.

Seed of Seaside bent is produced in large quantities in the Pacific Northwest. The bent grass seed industry in that section dates back to about 1924. According to estimates by Professor Hyslop of the Oregon Agricultural Experiment Station, about 1800 to 2000 acres of this seed was harvested during the past year. The production is estimated at approximately 100,000 pounds by the U. S. Department of Agriculture.

In addition to the Seaside bent, including that going under the trade name of "Cocoos," there were about 30 acres of Oregon bent and 400 acres of Astoria bent grown in 1930 according to Professor Hyslop. A small amount of Seaside bent is also produced in Prince Edward Island, the estimated production last year being about 1500 pounds. In Rhode Island there was produced about 5000 pounds of creeping bent seed the past season.

RHODE ISLAND IS OLDEST BENT

RHODE ISLAND (Colonial) bent (*Agrostis capillaris*) is the oldest of the bents as far as production in this country goes. The production of bent seed in New England dates back to early Colonial times. Locally this grass goes under the name of Burden's grass and browntop. In other localities it is known as Fine bent. The state of Rhode Island is the chief seed producer of this grass.

The amount of Rhode Island bent seed produced in the State has varied considerably from year to year. The greatest production was probably reached about 1923 and 1924 when in the neighborhood of 125,000 pounds of seed were produced. Due to foreign competition this has fallen off until at the present time probably somewhat less than half of this amount is being produced annually. Rhode Island (Colonial) bent was also early introduced into Prince Edward Island. Later, emigrants moving from Prince Edward Island, carried seeds of this grass with them to New Zealand where it has also become well established.

The production of bent seed has become an important side line on many Prince Edward Island farms in the last few years. During the past season it is estimated that about 30,000 pounds of Rhode Island bent was produced in that province.

The growing of bent seed has increased even more extensively in New Zealand. During the fiscal year ending July 1, 1930, 890,000 pounds of bent seed was imported into this country. A large percentage of this consisted of Rhode Island (Colonial) bent from New Zealand.

At the Rhode Island Experiment station plats of Rhode Island bent grass grown from seed obtained locally, from Prince Edward Island, and from New Zealand are located side by side. From the appearance of the plats it is evident that they are all identical.

South German mixed bent, of which considerable amounts have been imported recently, can be most suitably classed in the Rhode Island bent group. In addition to Rhode Island bent it usually contains some redtop, a little velvet bent, and small amounts of creeping bent. The composition varies a great deal depending on the source from which it is obtained. Nearly all the German mixed bent seed is harvested from native stands in isolated areas in the forest regions of Germany. It is gathered by hand labor and more is harvested in years when prices are favorable.

THE VELVET BENTS

THE Velvet bents (*Agrostis canina*) make up another group which contains many different strains and selections. Velvet bents in general are characterized by their fine texture, dense turf and usually good color. Less top-dressing is usually needed than with the creeping bents, the growth is slower and so less frequent mowing is necessary. They are lighter feeders than the creeping bents, and also require less watering.

Some of the selected strains have very outstanding merits for their particular localities. Among the more important strains may be mentioned Arlington (U. S. No. 14276), Kernwood, Newport, Acme, Highland, and Mountain Ridge. The Arlington and Kernwood strains have done exceptionally well in the experiments at the Rhode Island Station and at the Arlington Experimental Farm.

The production of velvet bent seed is rather an infant industry so far. The crop in Rhode Island the past year is estimated at about 10,000 pounds. The crop in Prince Edward Island has been esti-

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Analysis:

NITROGEN (equivalent to ammonia)	6.0 - 6.5%
PHOSPHORIC ACID (P_2O_5)	2-5 - 3-0%
POTASH (K_2O)	0-25 - 0.5%
MOISTURE	less than 5.0%

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Milwaukee Sewerage Commission

Milwaukee Wisconsin



BENT NURSERY AT THE RHODE ISLAND STATION

This photograph of a seed-producing stand of bent was taken August 1, 1930

mated at 500 to 600 pounds. There is a small acreage of velvet bent grown for seed in Alberta also.

BENT GRASS SEED PRODUCTION

THREE years ago the Rhode Island Experiment station started some experiments on the production of seed of bent grasses. So far as the writer is aware these are the only experiments now being conducted on bent grass seed growing. These experiments include three major divisions designated as Sections A, B, and C.

SECTION A: A comparative test of different strains and varieties of bent grasses maintained under putting green conditions.

SECTION B: A test of the seed producing ability of the most promising strains included in Section A. This test also includes the testing of the seed produced with respect to its ability to transmit the different characteristics of the grass. There are four plots of each strain or variety included in the test.

SECTION C: A fertilizer test on Rhode Island bent for seed production. This includes fertilizers of different analysis in which the percentage of nitrogen, phosphorus, and potash are varied. Four plots of each type of fertilizer are used.

In Section A where the different strains are compared under putting green conditions, a plot was left vacant next to each planted plot. Seed from the same strain grown in Section B is used for seeding half of this plot which was left vacant. On the other half of the vacant plot seed is planted from the same strain or type also, but it is seed that has been produced by plants where precautions have been taken to prevent their being crossed. In this way the original plot can be compared both with the plot grown from seed grown under field conditions and seed where we know that no crossing has taken place.

It is thought that considerable crossing may take place in the fields where different bents are found growing together. This experiment is planned to find out how general this is with the different bents. In some cases the original plots were planted with seed and in others with stolens.

The first seed crop was harvested on Sections B and C during the past season. Weather conditions were ideal and excellent yields were obtained where the most favorable fertilization was used. The yields are considerably higher than can be expected under actual field conditions since undoubtedly more seed can be saved by the hand methods used than where the seed is handled on a larger scale. This is especially true for Section B where all the seed was flailed out by hand instead of putting it through a thresher. This was done in order to eliminate as far as possible the danger of getting the seed of the different strains mixed in any way. This method of threshing also left more of the seed in the hulls.

The yields of seed per acre obtained from the different strains and varieties in Section B are shown in Table 1.

Two Essentials for Better Turf

Cocoos Creeping Bent Seed

Lecco, the Complete Grass Food

Information upon request.

THE LYMAN CARRIER CO.

Granger, Indiana

TABLE 1. SEED PRODUCTION

Types and varieties of bent grasses—Section B.

Kind	Pounds Seed per acre*
Redtop	356
Rhode Island bent	264
Astoria bent	310
Seaside bent	143
Cocoos bent	178
Washington creeping bent	153
Virginia creeping bent	323
Metro. creeping bent	73
Arlington velvet bent	35
Kernwood velvet bent	129
Highland velvet bent	152

*Hand flailed seed. Contains more chaff than seed from Section C.

This is only the first year's results and it is too early to draw any conclusions. The test demonstrates however that all these different bents will produce satisfactory crops of seed under the right conditions.

The yields of Rhode Island bent obtained with the different fertilizer ratios used are shown in Table 2.

TABLE 2. YIELDS OF RHODE ISLAND BENT SEED

Fertilizer ratio test—Section C.

Fertilizer Ratio	Pounds Per Acre N. P. K.	Pounds Seed Per Acre
0-0-0	0- 0- 0	28.1
1-6-3	15-90-45	32.2
2-6-3	30-90-45	70.7
4-6-3	60-90-45	103.4
6-6-3	90-90-45	154.7
6-2-3	90-30-45	138.6
6-10-3	90-150-45	148.4
6-6-1	90-90-15	165.0
6-6-5	90-90-75	143.2

The yields range from 28 pounds per acre where no fertilizer was used to 165 pounds where 1500 pounds per acre of a 6-6-1 fertilizer was used. The yields are very apparently influenced, chiefly by the amount of nitrogen used. The change in the amounts of phosphorous and potash had little influence on the yield of seed.

The amount of nitrogen used for the best yields is probably higher than one would attempt to use under field conditions on account of the danger of

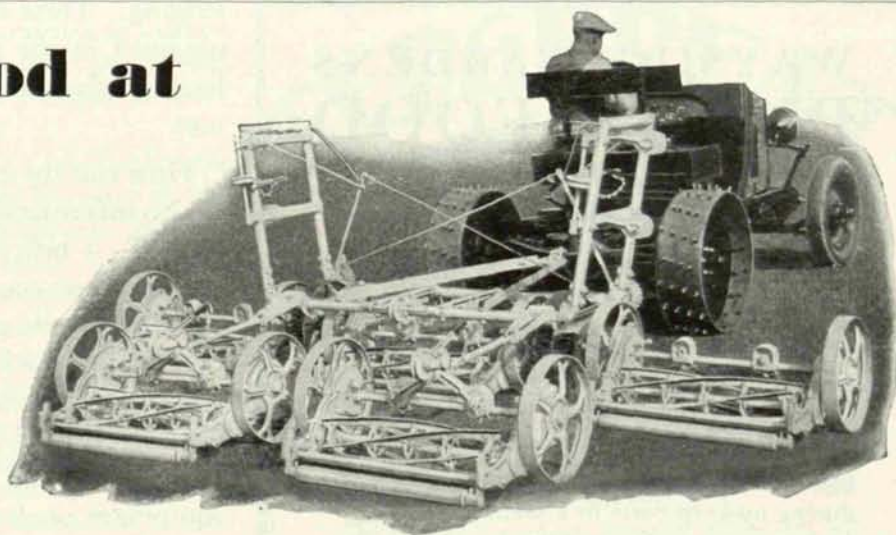
Making Good at Oyster Bay

"Just a year ago," writes Mr. Charles G. Wilkinson, Superintendent of Roosevelt Memorial Park, Oyster Bay, N. Y., "I ordered one of your tractors after looking at a number of others. To date the only expense has been for two spark plugs, though the tractor has been in constant use for all kinds of work—hauling, discing, plowing, etc., and it has never failed us."

In the 1931 model of the PENNSYLVANIA Tractor, still further operating economy is made possible by improvements in the radiator circulation system, heavy rear axle springs and an improved dump body.

For economy and efficiency in fairway mowing, use PENNSYLVANIA Tractor and PENNSYLVANIA Quint.

Write for new GOLF CATALOG, picturing and describing the tractor and the complete line of PENNSYLVANIA mowers for fairways, greens, tees and general trimming.



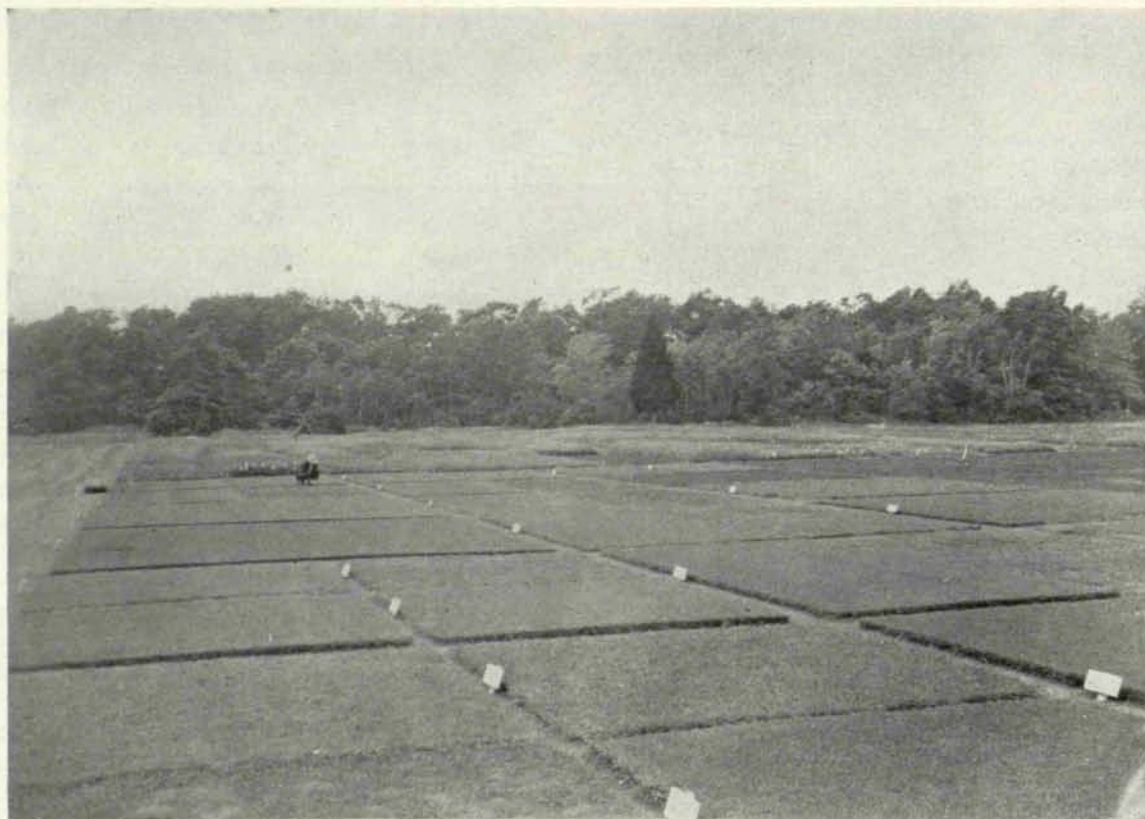
The 6-Cylinder PENNSYLVANIA Tractor pulling the PENNSYLVANIA Fairway Quint (quickly convertible)

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Quality

LAWN MOWERS

PENNSYLVANIA LAWN MOWER WORKS, Primos, Delaware County, Pa.



GENERAL VIEW OF THE RHODE ISLAND TURF GARDEN

WAYSIDE GARDENS PLANT FOOD

A Real Foundation Fertilizer for Golf Courses

This new ORGANIC Plant Food has been developed by plantsmen for the specific purpose of feeding grasses or plants low at the roots, promoting, as well as, inducing deep long root-action, thereby, building a thick sod and consequently a very dense growth. In general its action is similar to that of rotted cow-manure. It is not a by-product turned into a stimulant, but developed to produce sturdy growth, reducing up-keep costs to a minimum.

It does not contain any filler (is all pure Plant Food).

It saves on the quantity applied.

It is a one-application-a-year Plant Food as it lasts from twelve to sixteen months.

It does not burn, and can be applied at any time under all conditions.

Being organic, results are the same on all soils. Complete information may be had by writing to the manufacturers,

THE WAYSIDE GARDENS CO.
MENTOR, OHIO

lodging. These experiments show that the results obtained in the production of bent seed can be largely influenced by the kind of fertilizer that one uses.

How can the greenkeeper make some direct use of this information on the seed production of bent grasses? I believe that many greenkeepers have areas on their courses where they could allow some of their favorite grass to mature, and from this obtain enough seed to plant considerable additional areas on the course. It is not necessary to produce commercially cleaned seed for each purpose. If the seed is flailed out by hand the only additional equipment needed would be a small cleaning mill. Such a mill is inexpensive and will do a good job. This should prove a practical proposition to many greenkeepers.

WINTER-HARDY — ACCLIMATED

BENT GRASS SEED

Direct from my farms where it is grown

GUARANTEED RESULTS

A. N. PECKHAM :: Kingston, R. I.

Evergreens on the Golf Course

By A. H. HILL

THE successful greenkeeper today must possess a vast supply of scientific and technical knowledge. The scope of his duties usually includes, in addition to producing a good turf, a constant improvement of the grounds generally, particularly its landscape features.

Golf is an attraction to many people partly for the exercise, but mostly for the enjoyment of the open air and contact with the beauties of nature. The more attractive the grounds of the course may be, the more pleasure the golfer is bound to experience. Almost any golf course has a number of natural attractive landscape features. The embellishment of these existing features gives first opportunity for the use of evergreens. Then comes planting around the club house, attractive groups around trees, a cheerful planting at the entrance, and screens for out-buildings and adjoining property.

If you wait for the day when you will have abundant funds to enable you to purchase matured specimens for immediate landscape effects, the chances are your landscaping will never be done. Buying evergreens of nursery stock in large sizes is a big expense.

The greatest opportunity for golf clubs to improve their grounds with the smallest initial expense, is to develop a club nursery by purchasing once and twice transplanted evergreens which are available in quantities at very small cost, and by developing these in your own nursery, you will always have a supply of evergreens to draw on for various needs.

For instance, if you can set aside a small space the size of an ordinary suburban building lot, sixty by one hundred and fifty feet, you can plant one thousand trees three by three feet in such a space. In three to five years these trees will be large enough so that they can be set out in their permanent location. Of course they can remain in the nursery for even ten years or more constantly growing in beauty, in size and in value.

There are two planting seasons for evergreens in the locality around Chicago. The spring season begins late in March or early in April and continues until early May. The fall season begins about the middle of September and continues for several weeks. Usually small evergreens give better results when planted in the spring.

Evergreens are no different than any other form of

plant life in their soil requirements. They will respond with increased growth in a proper location with well drained, loose soil kept frequently cultivated during the summer. If the ground is of a loose nature and a dust mulch is constantly kept around the trees, they will not require watering except in a most severe dry season. If water is available, this gives a little extra insurance against loss.

There are several good commercial fertilizers which can be used to stimulate growth, while natural fertilizer is also very beneficial to them when applied on top of the ground and not directly in contact with the roots of the trees.

We have a great many varieties of evergreens and no one but an expert can ever hope to become thoroughly acquainted with their various characteristics. An assortment of ten or twelve different kinds which would include trees of practically all shapes and forms, ought to be sufficient. A well-balanced assortment for planting here in the middle west, ought to include such varieties as Savin Juniper, Pfitzer Juniper, Douglas Fir, White Spruce, Colorado Spruce, Austrian Pine, American Arborvitae, Pyramidal Arborvitae, Mugho Pine and Hemlock.

SEDGEPEAT NATURE'S PRODUCT

... FOR ...

GREENS « TEES « FAIRWAYS

Correct physical soil condition is all important. A perfect soil texture, lasting for years, can be had by building with SEDGEPEAT. It insures a deep root structure, without which a tough resilient turf is impossible. Its fibrous character prevents puddling and resultant sub-surface packing. It permits proper aeration. It absorbs and retains moisture, saving much watering.

Top dressing established greens with SEDGEPEAT will soon develop a perfect soil texture.

SEDGEPEAT used on fairways (spiked in) will promote a turf capable of withstanding long droughts.

A Practical Solution of the Turf Problem

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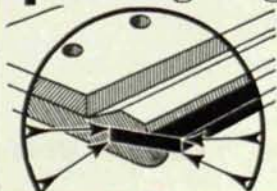
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Easily attached; quickly
changed. New low prices.

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BUDD MFG. CO., Ravenna, Ohio

**BUDD MOWER
BLADES**

Canadian News

By J. H. EVANS, *Golf Editor, Toronto Globe*

SOLONS of golf met in Toronto at the National Club on April 16 to discuss the problems of course maintenance in Canada. They discussed these problems after they had visited the Mississauga Golf and Country Club where the open championship of Canada will be contested.

They dealt with the problems which are wide and varied, but fortunately this year will not be intricate or serious, due to the experience accumulated by the greenkeeper and course superintendent who has applied the scientific and the practical with marked success as he went about his work.

* * *

Alfred Collyer, twice president of the Royal Canadian Golf Association, Norman Scott and George H. Forster, all of Montreal; L. M. Wood, Gordon T. Cassels, W. H. Plant and Secretary B. L. Anderson, all of Montreal composed the committee which met at the Mississauga club to talk with greenkeeper Joseph Stansfield about his course and then proceed to a down-town club to discuss the maintenance of the course.

* * *

The absence of Second Vice-President W. J. Sansom and other prominent course superintendents from the meeting which was the first since the Royal Canadian Golf association decided again to carry on a Green section with the help of the Federal Government on this occasion was noted by golfers and focussed attention on the work which the association hopes to carry on with success.

Several years ago, the association endeavored to build up a Green section with an expert at its head and the collective support of golfers behind it. When it collapsed the greenkeepers' organization filled the breach acceptably.

* * *

In view of past experience, the hope is now expressed that the association will find some means of including the

organized greenkeeper in its council and thus secure the ripe, practical experience required if a Green section is to be operated successfully. The association sought the blessing of the greenkeeper when it launched its second attempt, but now it apparently prefers to proceed without a valuable ally.

* * *

The initial contribution of the Royal Canadian Golf Association's Green section will be the distribution of a series of bulletins prepared by the Federal Department of Agriculture, carrying the views of a committee of golfers, on turf for sports use. They will go to each club of the association where the chairman of the Green committee, the secretary, or the greenkeeper may peruse them and extract therefrom that which may be of value. There is every likelihood that the majority of course superintendents and greenkeepers are acquainted with the turf required for sports use. It is said the Federal Government will recommend only four types of bent grass.

* * *

It was pointed out that the arrangement between the Federal Government and the Royal Canadian Golf association whereby plots are to be established and bulletins issued is that experiments must be left to the Department of Agriculture. It was felt that the work of the association might be more comprehensive and greater benefits might accrue if the government might permit experimental work. But if it permitted experimental work, someone must carry them on that someone would in all likelihood be the high practical greenkeeper.

* * *

For the first time in many years, there is little to concern the Canadian greenkeeper unless it be the effect of the world-wide depression which will place some limit upon the amount to be spent in course maintenance. At the same time, it will give him a proportionately greater opportunity to display his ability.

* * *

There has been golf in eastern Canada during March, but April has generally been cold with its snowfall and



An improved model Ohio Greens Cultivator loaned with each car shipment.

Make a light top dressing NOW with "WINDRIFT" Hardwood Humus Material

Absorbs heat for spring growth. Brings turf much earlier.

Creates an accurate putting surface.

Saves loss of spring moisture through evaporation.

The Ohio Humus Products Co. London, Ohio