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There is no more exacting mowing operation than the maintenance of true, uniform surfaces on putting greens, and no more arduous task with a cumbersome mower.

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Evanston, Ill.

Good Machines Save Man-Power

By FRED SHERWOOD

Greenkeeper, Northmoor Country Club, Chicago

A SHORT time ago, I was quoted as having said, "The maintenance expense of a golf course could be considerably reduced, likewise the club's annual budget by cutting down the labor costs, if modern machinery is used on a more extensive and comprehensive basis." Perhaps the following will explain to some extent what I mean:

Machinery is on the market for almost every conceivable job on a modern golf course. While it is true that some of this machinery is worthless as far as performing the work claimed for it, other machines are real labor-saving devices, and they are here to stay as a boon to the greenkeeper.

It is not my intention to attempt to enumerate any one firm's machine for any special service. I am fully convinced, after practical tests and demonstrations, that some of the firms turn out very fine laborsaving machinery—devices ranging from tractors, gang mowers, to putting green and bunker mowers. Visiting some golf clubs, I have been amazed at the piles of miscellaneous junked machinery lying around the barns and out-sheds, most of them bought as labor-saving devices on the strength of a smart salesman's word. Whether it was the fault of employee or the superintendent, or possibly the makers, the machine has been discarded and junked as no good. Instead of saving labor, it has only helped to swell the budget.

In the past, as well as the present, golf clubs can trace many of their big budget expenses largely to discarded and junked machinery. My experience has been that the chairman of the green-committee does not, as a rule, frequent the barns or sheds. A peek now and then into the sheds, and a few questions asked regarding the used and unused machinery, etc., might enfirst-class playing condition at all times. It does not matter if, perchance, the budget increases \$2,000 or \$3,000. It is the small club with limited resources that generally



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lighten the green-committee and broaden their knowledge on various matters.

An 18-hole golf course, properly supervised by an up-to-date and intelligent greenkeeper who has had more of the practical and less of the theoretical side of it, could, and should, normally run an 18hole golf course and keep it in perfect condition at all times for play and still have lots of change out of \$20,000.

Golf courses vary in upkeep. Those that have sprinkling systems installed are likely to run higher in labor upkeep than those clubs who have not the system.

Machinery, properly used and properly handled, with up-to-date devices, will save golf clubs much man-power. A summary of some of the items generally considered as the most expensive will, perhaps, be of interest. Fairway mowing twice a week with a tractor and five mower units will entail an expenditure of 960 hours for one man alone, or \$550 for the season. These items will vary according to what a club must pay its labor.

	Total Hours	Wages
Rough, once a week		\$ 250
Fairways		550
Scythe man	1,200	660
Four-acre machine for cut- ting traps and around		
green Five men cutting greens		720
daily		2,000
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These items are based on the maximum expenditure rather than the minimum. I have refrained from mentioning the expenses for top dressing, fertilizing, worming, brown patch, weeding, raking traps, etc. Most greenkeepers seem to have a way of their own for doing these pursuits. But here again, quite a deal of man-power can be saved if the greenkeeper will familiarize himself with modern appliances, put on the market to minimize the cost of the various items I have just mentioned.

First-class golf clubs with large incomes are not perturbed one way or the other, providing their golf courses are kept in





WHEN I went down to Dallas to play in the P. G. A. tournament I took with me a set of my new models which I had picked right out of stock at our factory.

"On the way I stopped off at the St. Louis Country Club and played with Art Longworth against Jimmy Manion and 'Cotton' Whitbread.

"The next time I used these stock clubs was in the P. G. A. where I used them thruout the Championship. I've never played with a set of clubs that gave me as much confidence as these did.

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All this can be put under control by Fulname Marking backed by a sound policy. No habit among players deserves encouragement by the management more than that of marking plainly every ball they play. The players who use Fulname find it a profitable investment, not an expense.

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Millions of golf balls have been Fulname marked without a report of damage to a single ball otherwise good.

The method is correct. Opposition to Fulname Marking justifies a search for the real reason.

The Fulname Company will be glad to give full details to Club Officials, Professionals or interested players. Be sure to give name of club. Address the company at 707 Southern Ry. Bldg., Cincinnati, Ohio.

first-class playing condition at all times. The small club wants to save.

The best way this can be brought about is to engage a thoroughly practical greenkeeper, familiar with all up-to-date machinery. Give him a free hand to work in conjunction with his chairman; eliminate redtape methods; recognize him as an authority on his work, and let him account for all expenditures once a week. Having confidence in him will make him want to attain great heights and will give him pleasure in running the course at a minimum expenditure.

Play All Winter Without Green Injury

WESTMORELAND, in the Chicago district, probably has more winter golfing "nuts" than any other club in the section. Play continues all through the winter on the permanent greens and to the uniformed observer it is an amazing fact that Westmoreland is one of the earliest courses in shape for spring play, and continues in excellent condition all through the normal season.

It is the belief of the people responsible Westmoreland's all-year play and for maintenance policy that since nature takes pretty good care of pasture grass during the winter it should do as well for golf They admit that walking on the turf. greens during the winter makes them rough in the spring, but they correct this condition by rolling in the spring when the frost leaves and before the ground gets too dry.

A tractor-drawn roller 6 feet wide and weighing not less than 2,200 pounds is used for this green rolling the same as for the fairways. Experienced men operate the tractor, so there is no damaging slippage of wheels. The man uses his head. He doesn't run up hill on a green at a brisk speed. He gets results by careful operation and in addition to smoothing out the rough spots left by winter play, the rolling keeps the moisture in the ground so the greens get a good early start.

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JOHN W. WEIS,

Valuable Papers Read at Green Section Meeting

BY O. J. NOER

HE annual meeting of the United States Golf Association Green Section was held at the Hotel Astor in New York City on January 6 and 7, 1928, with Mr. Findlay S. Douglas, vice-president of the association. presiding. Two sessions were held on Friday and one on Saturday morning. Approximately 250 green-chairmen and greenkeepers were in attendance, and displayed keen interest in the papers presented. Besides reporting on the work and accomplishments of the green section, discussions included such pertinent topics as soils, fertilizers, turf diseases and grub, weed and worm control. The complete program was as follows:

January 6, 10 A. M.

Opening Remarks-Chairman Findley S. Douglas.

Annual Report of the Chairman of the U. S. G. A. Green Section—H. L. Westover, Washington, D. C.

The Service Rendered by the U. S. G. A. Green Section to the Golfers of America— Wm. G. McKnight, president, Baltusrol Golf club, Short Hills, N. J.

How the Green Section Can Be Helped by Clubs, Green Committee Chairmen and Greenkeepers—Sherrill Sherman, Yahnundasis Golf club, Utica, N. Y.

Treating Compost to Destroy Weed Seeds -D. M. Boude, manager, Miami Valley Golf club, Dayton, O.

January 6, 2 P. M.

Physical Soil Conditions Affecting Turf -O. J. Noer, Madison, Wisc.

Feeding versus Seeding Turf-Norman L. Mattice, manager, Pine Valley Golf club, Clementon, N. J.

First Aid to the Beginner—A. G. Chapman, chairman, Green Committee, Audubon Country club, Louisville, Ky.

The Proposed Greenkeepers' Convention in 1928— H. K. Read, chairman, service bureau, Philadelphia Green Section, Philadelphia, Pa.

January 7, 10 A. M.

Recent Turf Disease Studies—Dr. John Monteith, Jr., U. S. Department of Agriculture.

Conditions Which Influence the Growth of Turf-C. A. Tregillus, Simcoe, Ontario.

Further Experiments in Grub, Worm and Weed Control With Some Comments



HE profit on an item is important, of course, but that profit made *frequently* is much more important.

Reddy Tees give you a good margin, and they give it often. They sell fast —faster than any other tee in the world. Fair margin multiplied by frequent sale equals husky profit for you.

Golfers prefer Reddy Tees to any other because they last longer, are brightly colored and easy to find, balance the ball without friction, are easy to insert and adjust to proper height, can't damage the club face, and — because they are the best made and best designed tees on the market.

Every man who plays your course is a prospect for Reddy Tees. Display them prominently. A reminder makes a sale. Sales soon mount up to a good-sized profit.

And remember that Reddy Tees help sell other merchandise for you. Golfers come in frequently for tees. That gives you a good chance to sell them balls, clubs and other equipment.

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The Tee of Champions

Reg. U. S. Patent Office P. S. For those who fancy a carrot tee, the Nieblo Mfg.Company makes Scot Tees. These are not as well made as the Reddy—no other. tees are—and consequently cost you less.



Self-Adjusting

Smooth mowing is permanently as-sured with F. & N. TITAN Fairway Mowers by the pal-ented F. & N. Self-Adjusting Device in the resolving reel. No atten-tion or difficult adjustments by hand are ever necessary.



The F.S.N."Quintet" Fairway Equipment

Tractor mowing requires rugged mowers especially built for this hard service, if best results and minimum upkeep are desired. That means F. & N. TITAN Fairway Mowers for several reasons: They are designed and built exclusively for tractor work, by the world's largest lawn mower makers. The drive wheels are 17 inches high. Interlocking frame and cutter bar hold the mower rigid and in alignment-the mower can't work loose at the joints. Gears cut from drop-forged, carbonized steel, and run in oil-tight gear case, assuring minimum wear. Genuine heavy duty Timken Roller Bearings mean easy running. F. & N. TITAN Fairway Mowers are the choice of experienced golf clubs and greenskeepers everywhere. Guaranteeed. of course.

Supplied in gange of three or five for Fordson, Staude, International and any other tractor, complete with attachments for flexible all-steel frame. Write us today for catalog and prices.



on the Trend in Greenkeeping-B. R. Leach, U. S. Department of Agriculture.

Fertilizer Experiments on Turf Grasses -Dr. Howard B. Sprague, N. J. Agric. Exp. Station, New Brunswick, N. J.

In the opening remarks, Mr. Douglas stressed the important functions of the Green Section, and paid tribute to the pioneer work of Dr. Piper and Dr. Oakley, as well as the present staff. Due to their efforts frauds have been exposed and sound principles of turf management enunciated for the guidance of green-committees and greenkeepers.

Busy Year for Green Section

Mr. Westover presented a detailed report covering the activities of the Green Section staff during the past year. Very many clubs requested specific information which was given by correspondence. The staff were unable to visit as many clubs and districts as seemed desirable due to limited travel money. The experimental work included testing varieties of bent and fertilizer, and continuing work in the control of turf diseases and insect pests. In addition to the turf nursery at Arlington, experiments were continued in Florida, Kansas, New Jersey and Minnesota under a co-operative arrangement. During the coming year, it is hoped to establish co-operative turf gardens in California and the Chicago district.

The fertilizer applications on the regular plots have been continued and the results confirm those obtained in previous years. Acid producing nitrogenous fertilizers continue to reduce clovers and weeds. Mention was made on the effect of corrosive sublimate for controlling so-called "snow mold," and the various mercury compounds for combating large and small brown patch. Several promising varieties of velvet bent, which propagate quite rapidly vegetatively, are under observation. and give promise of developing excellent turf for greens.

Dr. Oakley was reported to be improving in health and is expected to resume active work during the ensuing year. The resignation of Mr. G. T. Cunningham, executive secretary, and editor of the Bulletin, was announced, effective December 15. 1927. Mr. O. B. Fitts also leaves on February 1, 1928. Arrangements have been made whereby Dr. John Monteith, Jr., will devote his entire time to the Green Section work after April 1st. He will edit the Bulletin and direct all the experimental work. The Green Section is for-

tunate and to be congratulated in securing his full time services.

Mr. Wm. McKnight, president of the Baltusrol Golf club spoke briefly on the service rendered clubs by the Green Section. He called attention to the widespread interest in scientific research in industry. The large progressive corporations maintain scientific staffs and are guided by the results of their research. The workers of the Green Section have in no small measure contributed to the betterment of golf course maintenance. The effect of the use of sulphate of ammonia in controlling weeds at Baltusrol was cited, and mention was made of the excellent greens composed entirely of velvet bent.

Support of Green Section Urged

Mr. Sherrill Sherman of Yahnundasis, in his introductory remarks, told of the excellent results obtained at his club by following the guidance of the Green Section and urged more general and hearty support. He suggested that individual club members be encouraged to subscribe for the Bulletin. Mr. Sherman pointed out how individual clubs can conduct experiments and thus supply valuable information relating to turf maintenance problems.

Mr. D. M. Boude, manager of the Miami Valley Golf club, explained how his club treats compost with steam to destroy weedseeds. The soil is put in a specially constructed box and steam is run in. The process is similar to that used in steaming tobacco beds. This paper provoked considerable discussion.

Mr. Leach explained how carbon disulphide could be used to kill weeds, but expressed the opinion that all these methods would be discarded in favor of more simple methods, notably lead arsenate. This chemical, when mixed with topdressing, kills troublesome weeds such as chickweed, crab grass, etc. This discovery was incidental to the use of lead arsenate for the control of grubs.

Turf Tests at Pine Valley

Mr. O. J. Noer spoke on the physical soil factors as they affect turf growth. He stressed the importance of the size of the individual soil particles and their arrangement. These determine the waterholding capacity, air-space, and the rate at which plant food becomes available.

The importance of the fertilization in improving their turf was brought out by Norman L. Mattice, manager of Pine Val-



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Today's low prices on Bent Grass Seeds should encourage the more liberal sowing of these grasses, which in the past, on ac-count of their high cost, were restricted

Sow Bent on Your Fairways and Lawns! The extreme fineness and beauty of turf produced from Bent Seed are well known.

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TESTED for PURITY and GERMINATION South German Bent **Colonial Bent**

South German Bent Colonial Ben Rhode Island Bent (Washington Grown) Cocoos Bent Bent Stolons Special Putting Green Bent Formula Superfine Fairway Formula (With Bent) Chewing's N. Z. Fescue Fancy Red Top Kentucky Blue

Special prices on the above, and any other Grasses or Miztures, on application

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We are now convinced, after several years of trials in the different sections of the United States other than the Pacific Coast, where it is already recognized as the outstanding Putting Green Grass, of the fine turf producing qualities of this Creeping Bent. True Coccos Bent turf is superior to turf produced from stolons and yet of the same creeping habit and uni-form color. form color.

Use Coccoss Bent for your new greens or work it into existing greens, or wher-ever a fine and enduring turf is desired.

Per lb. \$2.50, 10 lbs. \$22.50, 100 lbs. \$200

Remember:—All our seeds are of the high-est quality, obtained direct from the most reliable sources of supply and are botani-cally fyue to name. All seeds are new and are cleaned and recleaned until they are brought up to the highest possible state of purity and Kerminntion, special care being given to elimination of weed seeds. We are always glad to suggest varieties suited to your soil and climate, to assemble a combination of seeds to your specifications, or to supply our own mixtures.

Golf Course Equipment

We carry a complete line of equipment and sup-plies. Call at our new Golf Equipment Display Floor at 40 Vescy St., N. Y., or write to us,

Without obligation we shall be pleased to send a rep-resentative who, from long experience, is gualified to advise reparding grasses and furnish such other information as is necessary for the best results.

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"As OHIO Goes, So Goes the NATION"

The old familiar election prophecy, "As Maine goes, so goes the Nation" has shifted its locale to Ohio and now concerns itself with a less romantic institution than politics.

"As Ohio goes, so goes the Nation" now finds its inspiration in Golf Seed Statistics which show rather convincing evidence that the golfing citizenry of the country have gone Scott by a large majority, with Ohio as the torch bearer—seven out of ten clubs in the Buckeyc State Sow Scott's Seed and one out of five in the entire country.

> We gratefully accept this verdict of the polls. We feel that it is the result of intelligent weighing of facts. Before you vote in 1928—for the good of your course—get the facts on Scott's Seeds.



ley Golf club. The sandy nature of the soil at Pine Valley is generally known. During the past year, the fairways have been topdressed with a mixture consisting of clay soil, leaf-mold from the woods, and mushroom soil. This mixture was further reinforced with fertilizer. This treatment, without the additional use of seed, has caused the existing turf to spread and produce a denser turf. All fairways received lead arsenate for grub control. It was soon evident that the lead arsenate also eliminated such troublesome weeds as chickweed and crab grass.

The difficulties of a new green-chairman was discussed by Mr. A. G. Chapman of Louisville, Ky. Mr. Chapman pointed out the great differences of opinion pertaining to golf course maintenance. He exhibited a loose-leaf system in which information gathered from various sources was grouped under appropriate subheads. A simple cost system was also shown and explained. This system is of inestimable value in building the next year's budget and is effectively used in justifying requests for increased or special expenditures.

Mr. H. Kendall Read announced plans for the proposed greenkeepers' convention. It is proposed to meet at the Country Club of Atlantic City some time during June, the exact date and program to be announced later. Besides visiting the clubs around Atlantic City, a day will be spent at the Pine Valley Golf club, Clementon, N. J.

The Saturday morning session was given over largely to scientific papers. Mr. C. A. Tregillus discussed the various factors which affect turf growth, including environment and soil factors. Turf is not permitted to grow according to its natural habits. In turf maintenance conditions as favorable as possible must be maintained.

New Turf Disease Found

Dr. Sprague of the New Jersey Agricultural Experiment station made a progress report in fertilizer experiments being conducted at New Brunswick, N. J. Treatments include manure, various forms of nitrogen, and lime with and without supplementary fertilizers. The percentages of bent grasses, clover and weeds resulting from these treatments were shown on charts, as well as the effect of the fertilizer on the reaction of the soil. Some progress was reported in the use of sulphur to make the soil more acid.

Dr. John Monteith gave a very inter-

esting talk on turf diseases, illustrated with slides. He showed a new disease called *pythium*. This is essentially a warm-weather disease and attacks all varieties of grasses. So far, effective means of combating this disease have not been worked out. It is undoubtedly of importance in the belt south of Philadelphia and St. Louis, where average summer temperatures are high.

Several pictures showing the effectiveness of late fall applications of corrosive sublimate in controlling the so-called "snow-mold" were shown. This disease is confined to northern areas and appears as the snow melts. The slimy moldgrowth often totally destroys large areas of turf, but can be effectively checked with bichloride of mercury if applied in the preceding fall.

Value of Mercury Compounds

During the past season, a large number of mercury compounds were tested as control for large and small brown patch. When applied to supply equal amounts of mercury all were effective except mercury sulphide. In response to a specific question, Dr. Monteith expressed the opinion that the more insoluble materials, such as calomel, usually prevent brown patch over longer periods than corrosive sublimate, yet are not so effective against the large brown patch. Attention was called to the fact that there is more danger of injuring the turf with corrosive sublimate than with calomel.

Mr. Leach presented new and interesting material on grub control with lead arsenate. He recommends the use of 5 lbs. of lead arsenate per 1,000 square feet for initial applications, to be followed by smaller amounts when used as a regular constituent of topdressing mixtures. Not only the green but circular areas 25 to 50 feet around the green should be treated.



GIVE new life to fairways this year. The grass will spread and thicken if properly fed.

V-C Fairway Fertilizer supplies just the kind and proportion of plant food needed. A ton of V-C Fairway Fertilizer contains fifteen times as much plant food as a ton of manure—requires less handling.

Does not interfere with playing. Does not bring in worms, grubs or weed seeds. Approved by leading golf specialists.

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STUMPP AND WALTER'S NEW ONES

STUMPP AND WALTER CO., New York, introduces this year the Sauco Lawn Comb, an attachment for the lawn mower which scarifies the turf, breaks the soil crust and lets air into it. Other claims are that it eradicates crabgrass, clover, Berumda runners and coarse grasses generally; it prepares turf for topdressing and fertilizing; and it opens up thin turf and prepares it for seed. It is more effective and easier than raking.

Stumpp and Walter are also introducing the Sawco Lawn Mower Lifter, a device which can be attached quickly to any side-wheel mower. This simple device permits the lawn mower to cut long grass easily. It is for use on golf courses, parks and lawns; anywhere, in fact, where grass may have been allowed to grow too long to cut readily.

N E W LITTLEFORD COMPOST MIXING SCREEN

L ITTLEFORD BROS., Cincinnati, Ohio, are offering to golf courses for the 1928 season a compost mixing screen with a rated capacity of 15 cubic yards per day. It is free from complicated parts. Screening cylinder is 26 inches in diameter by 60 inches long and



is arranged so that wire screen can easily be replaced when worn out. A heavy cast iron fly-wheel insures constant motion.

While the standard screen is hand operated, pulleys are furnished when it is desirable to use mechanical power.

F. & N. MOWERS IMPROVED F. & N LAWN MOWER CO., makers of F. & N. fairway equipment, Richmond, Ind., announce among features of their triples

