

Records Plus Common Sense

—showed me the way to—

CUT COURSE COSTS

By HENRY McKEEN, JR.

A timely article which should be of particular interest in these times of necessary budget reduction. This paper was written while the author was vacationing in Corsica, and the quantity figures shown on fertilization chart are illustrative only, accurate figures being impossible in the absence of his records.

There are four major elements of cost in golf course maintenance: Labor, equipment, materials and supervision. And the last is the most important. It is hoped that the following exposition of proven plans for increased efficiency and decreased costs may be of help to harassed chairmen and greenkeepers.

IT IS POOR economy to seek cheap labor. An ignorant ditch-digger can ruin a \$5,000.00 green in no time. Men who have worked on the course for some years, working up from odd-job labor, are money savers in the end, even though their hourly rate is higher than current unskilled wage. Besides their greater efficiency through familiarity with their work, a substantial saving in time and total wage can be effected if every working detail is planned ahead. Arrange in advance each man's work throughout the day with jobs routed so that each succeeding piece of work is nearby.

It is much more economical to load the gangs and tools on the trucks at 7 a. m. and take them to appointed tasks and to fetch them back again at night than to have ten men wasting a half hour daily tramping to and from their work. And it costs money to have three or four sitting idle after a job is done awaiting further orders. Plan ahead. Make one of each gang a sub-boss and furnish him with *written* instructions so there can be no misunderstanding. Have necessary materials on the spot the night before and all required tools right on the truck which takes the men to work. Additional saving in labor can be effected by the purchase and intelligent use of machinery.

Good Equipment Is Money Saver.

Not only can time and labor be saved but better work accomplished by the use of efficient machinery. There are many contrivances offered for sale, some worthless from the point of view of economy, others

indispensable. Do not spend money on a machine until you are sure that it will not only do the work you want it to do, but do it more efficiently and more cheaply. A machine planned to do two men's work which takes three to operate is hardly a good investment. By careful experimentation in our club we found that an average of two men could be eliminated by the purchase and use of

(1) a tractor, which plows and harrows our soil nursery and furnishes power for

(2) a tooth-belt high speed compost shredder

(3) a hoist type lump-breaking rotary screen

(4) a single-operator scoop for use in soil-nursery, bunker-digging and building tees and greens

(5) a power-greens mower used for cutting greens aprons, banks and tees (we found our compact soil did not permit use on the greens themselves)

(6) a greens-spiker for use with this power mower, which cut the average time of spiking greens from 2 hours to 20 minutes.

In summer we move our shredder and rotary screen out to the soil plot, and mix topdressing right on the spot in odd times, carting it to a covered shed for future use. In the fall, equipment is moved to the second floor of our barn, and a supply of dry materials delivered there. A hole in the floor under screen permits discharge directly to a storage bin on the ground floor, truck backing into bin for loading. Two men can prepare topdressing for 18 greens in one and a half days. By old hand screen-

Green No <u>4</u>																			
Area <u>5100</u>																			
Month <u>July '33</u>																			
Day	Sulfate (lbs)	Puttg Green Fertilzr (lbs)	Arsenate (lbs)	Mercury (oz)	Milorgte (lbs)	Top-dr (cu yd)	Water (hrs)	Brown patch	Day	Sulfate (lbs)	Puttg Green Fertilzr (lbs)	Arsenate (lbs)	Mercury (oz)	Milorgte (lbs)	Top-dr (cu yd)	Water (hrs)	Brown patch	pH Readings <u>6/1 - 6.9</u> <u>7/1 - 6.8</u>	
SPR									SPR										REMARKS
1	75	102	40	25	0	2	14	0	16	20	0	0	30		3/4	18		Color and growth good Weeded on 9 th - 4 hrs.	
2				10		1/4	1		17										
3									18										
4									19										
5				10				LIGHT	20										
6								LIGHT	21				10		1/4	1			
7								OK	22										
8							1		23										
9	20					1/4	2		24										
10									25							6			
11				10		1/4	1		26										
12									27										
13									28	10					1/2	2			
14									29										
15							8		30										
tot	20	0	0	30		3/4	18		31										
Total for month									30	0	0	40	0	1/2	27				
Brought forward									75	102	40	25	0	2	14				
Total for year									105	102	40	65	0	3 1/2	41				

You don't have to trust to memory if a fertilization chart like the above is carefully kept for each green.

ing methods it took four men five days to do the same work. By this arrangement and plan of storage it is possible in early spring to prepare sufficient dry topdressing for all needs, utilizing bad days when outside work is interrupted.

Quantity Purchases Save.

To buy materials economically one must know just how much is required for the whole season. A hundred pounds here and 50 pounds there at retail prices soon pushes up costs. To know what is needed requires careful records based on past experience. These records are sadly lacking in the average "small town" club. To buy at a guess means either a surplus to disintegrate in the barn until next season, or

too little at small lot prices and a scramble to replenish when used up.

The fertilization schedule reproduced here accomplishes a double purpose. It is a key for the greenkeeper's activities and permits very easily an accurate total of all materials needed for the season to comply with the schedule. Our total greens area approximates 100,000 sq. ft. To give each green 5 lbs. of ammonium sulfate per 1,000 sq. ft. will therefore require 500 lbs. of this material. The greenkeeper has a chart giving the exact square footage of each green, and required amounts are mixed with the filler for each green, and bagged and labeled for each according to size. Figuring total required during season for greens, plus amount for banks, ap-

proaches and tees, plus total used in making our own complete fertilizer (which we call Putting Green Formula) gives the exact amount of sulfate we will require for the entire playing season. The same figuring can easily be done for the other ingredients to be used, and the respective totals will show how much of each should be contracted for. It is often possible to place the entire order at an advantageous price, delivery and payments to be made at several intervals during playing season.

A record is kept of exactly how much fertilizer and fungicides are applied to each green during the year. The schedule itself is necessarily elastic, and quantities and times of application are varied slightly according to conditions. From past experience, however, we find the yearly totals vary but little.

Soil Analyses Helpful.

Frequent expert analyses of soil conditions on each green make it possible to determine the relative deficiency or excess of needed soil constituents in every putting surface. Subsequent treatment should be based on these findings. Each green will vary considerably in soil structure, composition and grass growth, and should be individually studied and treated. We find an individual green record indispensable, and many times worth the slight trouble required to keep it accurate. By keeping these records in permanent loose-leaf binders we are able to chart the entire fertilization records of any individual green thru past years. It further makes impossible excess or scant fertilization through error

or neglect on the part of the greenkeepers.

We have ascertained from several years' study and analysis a basic balanced formula which supplies necessary organic and inorganic matter in approximate correct amounts, any deficiencies in individual greens being taken care of by separate applications of needed chemicals.

Topdressing Is Large Item.

How many clubs actually know the cost per cubic yard of topdressing? If accurate records are kept of labor, soil, sand, humus or compost used, the total cost per cubic yard will be found to be astonishingly large. Any savings in labor or ingredients will mount to large totals during the playing season.

A very considerable saving can be effected in basic soil ingredient by establishing a good sized soil nursery. In our club this occupies about five acres in a corner of the rough, well out of line of play. When started this plot was plowed deep to subsoil, using a chain drag to break the furrows, and kept harrowed for several weeks to kill weed growth and to permit rotting of vegetation plowed under. An application of a ton per acre of balanced organic fertilizer was given, the plot deeply disced and then tooth harrowed, and a heavy planting of winter vetch made. The following May this growth was plowed under deep, another fertilizer application made, and a mixture of inoculated spring vetch and buckwheat sowed. A portion estimated sufficient for summer and fall use was plowed again in mid-June, the balance remaining in cover crop until mid-August.

1932																				
Month	Day	Greens Nos. (also Turf Nursery, Sod Nursery and Pract. Gr'n)	Sulfate	Putt.Grn.Form	Arsenic,Lead	Mercury	Milorg'te	Tees Nos.	Sulfate	Putt.Grn.Form	Arsenic,Lead	Milorg'te	Approaches and Banks Nos.	Sulfate	Putt.Grn.Form	Arsenic,Lead	Milorg'te	Fairways Nos.	(also Top- soil Plot)	Milorg'te
Mar	25							all	20	5			all	20				Tops. Plot	50	
	30												bks		5			F W		40
Apr	1-7	all	5																	
	20	1, 2, 3, 7, 9, 13 14, 15, 16		10	8															
	25	others		20	8															
May	20							all	5				bks	5						
	24	all		8																
June	15	all				2														
	20	all		6				all	5											
	25	3, 7, 8, '7				3														
July	2												all	5						

This top-dressing record will show at a glance vital details of the year's maintenance.

The heavy vetch growth effectively killed off weeds.

When using we take off only about 2 inches, then cover with well-rotted compost and fertilizer and plow deep, taking up a little subsoil to compensate for topsoil removed. Each spring and fall all of the area except the portion reserved for current needs, is plowed and fertilized and a nitrogenous cover-crop planted. After the first year, as the soil mellowed and organic content increased, the necessity for the use of large quantities of sand and humus in our top-dressing decreased to a very marked degree. Sharp sand and peat humus are expensive articles and every ton saved is money for use elsewhere.

We figure our saving in sand, humus and labor of hauling and mixing same over and above cost of cultivation, cover crop seed and fertilizers as over \$500 per annum. With a large plot using only two inches at a time and plowing and sowing twice yearly, by the time we have gone thru the entire nursery and come back to starting point we find practically the same original depth of good soil.

Advance Planning Is Important.

Those readers who may have skipped lightly over preceding paragraphs are invited to read this section carefully. Without advance planning, savings will be small—no matter how up-to-date equipment may be. By "supervision" is not meant just the bossing of daily labor in process, but a comprehensive and intelligent study of course conditions, and further, a systematic planning of advance work and future material and equipment needs and a definite course program extending even years ahead. Thousands of dollars are wasted by the average club lacking a definite plan and policy for the systematic improvement of the playing condition of their course.

Keep Greens Boss In Job.

The customary frequent change in the green-chairmanship is usually costly. Each succeeding chairman has a pet theory or two which he puts into operation. Having probably a rather poor opinion of his predecessor's ability, work started by him is often stopped or changed. If the ex-chairman has won the confidence of the greenkeeper and worked harmoniously with him there is chance of friction through change of policy. I know of a course having sandy loam soil where half of the greens were ruined by the insistence of a new

chairman that greens be frequently top-dressed with practically clear sand. He had once been a member of the green-committee in a Pennsylvania club whose soil was hardpan limestone clay. He had seen the greenkeeper there give several late fall applications of sharp silica sand. This being what the greens there required, he felt sure it was the proper thing to do.

In cases such as this the greenkeeper is in a most unfortunate position. He should of course, refuse to follow ridiculous orders. But then he may lose his job. Better though to, have it out once and for all, for if the course deteriorates he will soon be looking for a new berth at any rate.

Plenty of blame and little credit falls to the average greenkeeper unless he has the right kind of a green-chairman. That club is fortunate which can find a member interested in growing things. One who has the time and the inclination to study problems and to work harmoniously with the greenkeeper. Such a chairman should be left in charge as long as he has the strength and the willingness to serve!

Maintenance of a golf course is a good sized business in itself. There are few sciences more exacting than agronomy. Fine grass must be grown and maintained under entirely artificial conditions and quite contrary to nature's usual program. For efficiency and reduced costs just as careful management, planning and supervision is required as for any other successful enterprise.

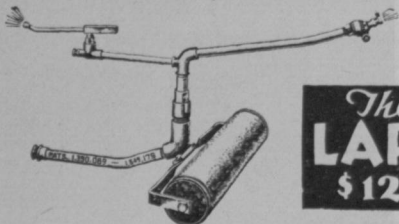
What's Solution For Small Clubs?

In these days of reduced income the green-committee and greenkeeper find themselves on the spot. On the one hand the necessity of curtailing in labor and materials. On the other the complaints of golfers if the course is not kept up to past standards. And more serious the likelihood of increased susceptibility to disease and permanent turf injury through required curtailment. Now more than ever before must the most value be had of every dollar.

For those larger and wealthier clubs who can afford an expert manager or a highly paid greenkeeping specialist whose work is really managerial, the situation is not as serious as for the smaller club. At most this crisis means for high-hat clubs perhaps a lessened number of frills and refinements. In many "small town" clubs the situation is desperate. There almost

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Scotty Chisholm Shoots Some Sports Movies

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Full details of these films, which are of the home motion picture projector size, may be had from the Parry Film Co.

Cutting Course Costs

(Continued from page 12)

invariably the greenkeeper works right on the course with his men, and his days are much too full to permit of anything more than day to day maintenance. Assuming that he has the ability, the experience and the inclination, it is not reasonable to expect him to work half the night and weekends on course economies, and attend to daily maintenance as well. And it is just as equally impossible for the average weekend green-chairman, no matter how interested and efficient. It is a specialist's job.

Part-Time Man Is the Answer.

Now above all times must waste be eliminated, efficiency intensified and sound economies introduced. The entire economic and physical structure should be analyzed, requirements ascertained, deficiencies remedied, present and future policy determined and every detail planned accordingly in advance.

The average small town club cannot afford a whole time expert agronomist and economist. It would, however, be possible for a group of clubs in a given locality to secure such services co-operatively. Thereby could be obtained, at small individual cost, specialized advice and savings in maintenance and in mass material and equipment purchases. The expert service contemplated (and surely such must be available in every locality) would not only analyze and suggest, but actually work with the chairman and greenkeeper in planning details of course routine along sound economic lines, giving as well regular and personal service at each course during the entire playing season.

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