Close-Up on Compost Costs Is Illuminating

By EDWARD B. DEARIE
Greenkeeper Ridgemoor C. C. (Chicago)

A SATISFACTORY compost cost record is one of the details of modern golf course maintenance to which too little attention has been devoted by the average greenkeeper. A knowledge of the exact cost of compost is desirable in order that it may be compared with the cost of commercial fertilizers. Too often several of the factors involved in the cost of compost are overlooked and the actual cost of compost is underestimated.

Ordinary compost consists mainly of barnyard manure, top loam or peat, sand or clay. The exact composition of the mixture will depend upon what is available. There are no definite rules as to what will make compost, but a mixture without manure lacks the organic humus necessary to create the physical reaction so important to grass growth. It is doubtful if natural compost can be satisfactorily made with any other humus supplying material except manure.

There are a number of satisfactory methods of constructing compost piles. Some greenkeepers plow up various locations in the rough adjacent to a plentiful supply of sand or clay. If the surface is clay, then sand is mixed with the manure; if the underlying surface is sand, then clay is mixed with the manure. Compost piles may often be placed close to fairways or greens where most needed, thus reducing the cost of hauling to the course.

An efficient method for the construction of compost piles is the layer system. The ground is first plowed and a layer of manure or any green material which will decompose is spread over the surface in a layer about eight inches in thickness. For the first layer green-clippings, clover cuttings or leaf mould mixed with sand may be substituted satisfactorily. Then is applied a layer of similar thickness of top soil, followed by another layer of organic material. These layers may be built up to a height of about four feet.

While the sizes of compost piles vary, a most practical area is 20 feet wide by 80 feet long. These dimensions make it possible to build a shed covering over the top at a height of about 12 feet at a minimum of expense. Of course, the sides are left open, thereby permitting free circulation of air, which assists decomposition. The floor may be of either dirt or cement. A pile in such a space will contain about 236 cubic yards of compost.

In the construction of such a compost pile the far-sighted greenkeeper will eliminate expensive hand labor as much as possible. To accomplish this purpose the use of four-up fresnos or dirt scoops is recommended. These slips will cast and spread the top soil more evenly in layers than any other equipment. They may be used to spread the other ingredients of the compost pile also. Wherever practical, it is economical to haul the ingredients right to the spot and spread them directly upon the pile.

In order to maintain the highest fertilizing power of compost, it is necessary that the material should be remixed twice yearly. The season when this is done is immaterial. This action, which is purely a manual labor operation, assists decomposition.

Before use, of course, the compost must be screened. There are a number of efficient screeners on the market, ranging in price from $100 to $700 and having various capacities. A few of the smaller ones may be turned by hand, but most of them are rotated by power from either a stationary engine or a tractor.

The cost of making compost involves a number of factors, some of which are usually overlooked.

Many greenkeepers consider the cost of materials and the labor charge as the only expenses. There are several other charges.

Cost Factors

"Rental" of the compost shed is chargeable to the cost of compost, inasmuch as this structure has no other utility. The probable life of the shed must be divided into the original cost, which includes both

labor and material, in order to ascertain the rental per year. This amount must be multiplied by the number of years or fractions that the same pile of compost remains in the shed before being used. The result is the rental charge against the compost pile. This sum should be divided by the number of cubic yards in the pile to ascertain the rental charge per cubic yard.

The cost of compost itself varies greatly, as some courses are fortunate in having some of the essential materials close at hand. In some cases the only expense for the ingredients is the charge for freight and hauling. These expenses must not be overlooked when calculating the cost of materials.

Making a compost pile of 200 cubic yards would take two four-ups and one plow team two days, provided top soil was adjacent to location. The subcontract cost of this work, including labor and equipment, would be about $85.

The cost of remixing the compost is easily calculated, as this involves labor only. The easiest method is to estimate the amount of time required to remix one cubic yard and multiply by the average wage. This will give the cost of remixing each cubic yard.

The calculation of the cost of operating the screener also is complicated. Although the life of screeners and tractors is almost indefinite, the life of golf course equipment generally is estimated at five years. Therefore, one-fifth of the cost will give the amount of depreciation each year. The number of hours that these machines are operated each year divided into the amount of depreciation will determine the overhead expense per hour. To this sum must be added the wages per hour of the labor necessary to operate the screener and the cost per hour of the gasoline and oil consumed. The total should be divided into the production of the machine in cubic yards per hour to find the cost of screening each cubic yard.

The figure desired is the cost per cubic yard of compost. By using this unit and estimating the fertilizing value in terms of nitrogen, phosphoric acid and potash it is possible to make an accurate comparison between the cost of compost and commercial fertilizer. It is possible also to compare the cost of compost piles per unit, provided all of the factors are taken into consideration in each case.

To summarize, the cost of producing composts includes the following items: Rental of shed, overhead on account of equipment, cost of materials, cost of labor and cost of gasoline and oil. The following theoretical calculations may simplify the problem:

Typical Case

An example of figuring compost cost, where top soil exists on club property, follows:

Cost of lumber for shed	$ 500.00
Cost of cement for shed	150.00
Cost of labor for constructing shed	350.00
Total cost of compost shed	$1,000.00

Estimated life of shed, 10 years.

Yearly rental = $1,000 ÷ 10 or $100.00.

Average length of time compost remains in shed, 2 years.

Rental chargeable to compost pile 2 × $100 or $200.

Contents of pile = 200 cubic yards.

Rental per cubic yard = $200 ÷ 200 or $1.

Cost of Material—

Manure per cubic yard	$1.00
Hauling manure, cubic yard	.50
Freight on manure	1.00
Sand laid down, per cubic yard	2.00
Top soil laid down	0.00
	$4.50

Cost of 3 cubic yards of manure, sand and top soil, $4.50.

Cost of 1 cubic yard of material = $4.50 ÷ 3 = $1.50.

Cost of constructing pile, 200 cu. yds., $85.00

Cost of constructing 1 cubic yard, $0.42½.

Labor cost of turning one cubic yard of compost, $.25.

Number of times same yard of compost is turned = 4.

Labor cost of turning one yard of compost = 4 × .25 = $1.00.

Cost of screener, $500.

Estimated life of screener, 5 years.

Cost of screener per year, $500 ÷ 5 years = $100.

Number of days per year screener will be in use, 25.

Cost of screener per day = $100 ÷ 25 = $4.

Cost of screener per hour = $4 ÷ 8 hours = .50.

Cost of tractor, $600.

Estimated life of tractor, 5 years.

Cost of tractor per year, $600 ÷ 5 years = $120.

Number of days per year tractor will be busy = 200.

Cost per day for tractor = $120 ÷ 200 = .60.

Cost per hour for tractor = .60 ÷ 8= .07½.

Cost of gasoline and oil per hour = $1.

Cost of screener, tractor, gasoline and oil per hour = $.50 + .07½ + $1.00 = $1.57½.

Labor cost for operating screener per hour = labor 2 men × .50c = $1.00.

Cost of operation of screener per hour, $1.57½ + $1.00 = $2.57½.

Production of screener per hour = 3 cubic yards.

Cost of screening cubic yard = $2.57½ ÷ 3 = .86.

Shed rental per cubic yard	$1.00
Cost of material per cubic yard	1.50
Cost of making compost	.42½
Cost of remixing per cubic yard	1.00
Cost of screener per cubic yard	.86
Total cost	$4.78½

Managerial Secrets

By J. A. LEDWARD
Mgr., Lake Oswego (Ore.) Country Club

TO my mind, the best way to make a booster out of a fussy member is to make him or her believe you value their suggestions and criticisms more than those of the president.

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Building women's business at the club is rather difficult. I find that the best way to promote this is to let them help a little. If reservations for our club functions are slow coming in, I phone two or three of the ladies about it. They immediately get busy and the result is we have a full house every time. The women get a kick out of this; let them believe they are helping and they immediately become boosters.

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Officers should outline the policy of the club, preferably in writing, and place it in the hands of the manager for action, holding him responsible.

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I think it is bad to change officers too frequently. Ofttimes a committee-chairman will only have got nicely started when a new president is appointed and someone else is appointed in the committee-man's stead. This is expensive in any club and an unsound business procedure.

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Committees should be limited to three members each for efficient operation, and all matters between committees and the management should be handled by the chairman only. The reasons for difficulties in many clubs today is because too many people are trying to run them.

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To increase house revenue, keep the members informed as to what can be had at the club, and with much less fuss than at home. Impress on them that they owe it to their club to do their entertaining in the clubhouse and to support all club functions. Acquainting members with what is going on stimulates business; remember the adage: "Monkey sees, monkey does."

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The help problem cannot be fully solved. Help today are as temperamental as actors. However, I have found the situation materially benefitted by enforcing strict, but just, rules and furnishing healthy quarters and sufficient time for recreation.

Here's Something That We O. K., Too!

SINCE this has become the age of standardization, wouldn't it be more consistent to standardize the period of annual meetings of golf clubs, as well as state and district golf associations? A great majority of the clubs hold annual meetings in December at which the election of officers for the ensuing year occur—an ideal plan. A small percentage of clubs and associations, however, string these meetings and elections out from January to July, delaying the publication of annuals, and also causing much unnecessary correspondence. It would be very helpful to those interested in keeping records correct, if, for example, the clubs comprising the U. S. G. A. held their annual meeting and election during the same month as the U. S. G. A. meeting. This would be a step in the right direction. It would certainly be fine if all golf clubs held their annual election in December, the new executives to assume office on January first. Many already do this, so it is possible.—*Golf Illustrated.*