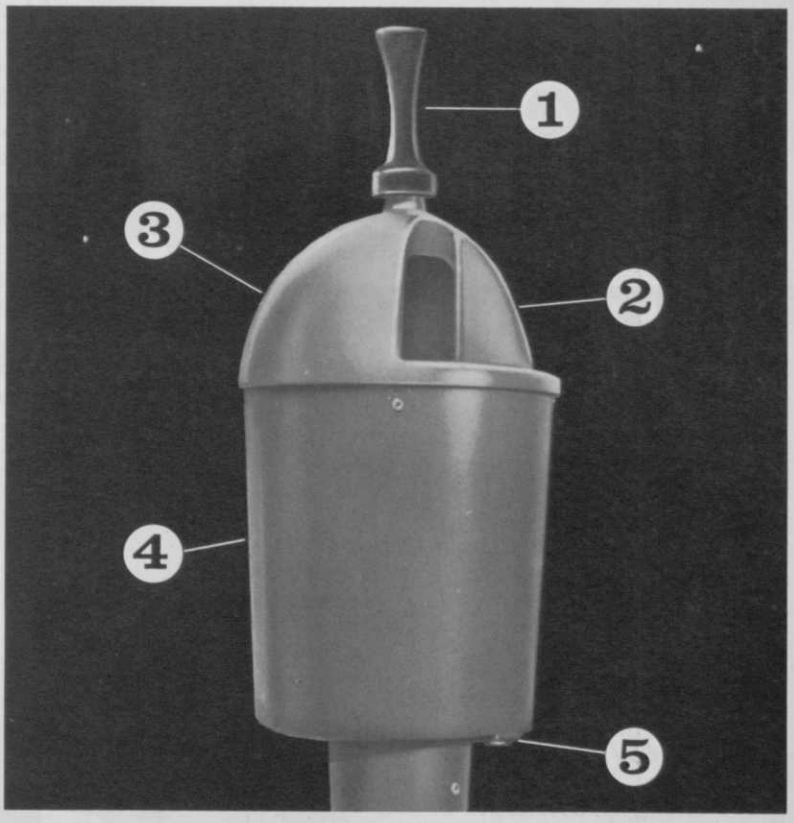
ANNOUNCING

NEW budget-priced ball washer!

Combines long life with low maintenance

New Lewis aluminum-fiberglass housing with stainless steel, rubber and nylon fittings assures rust-free dependability and trouble-free operation.



LEWIS LEADS AGAIN! You asked for a Ball Washer combining trim design with smooth operation and minimum maintenance . . . at a modest price. Lewis engineers achieved this with the remarkable new GF-68 Washer, combining aluminum and fiberglass. Its functional design and smooth, splash-free cleaning action pleases players from the first insertion of the ball to its final automatic transfer to the holding tray.

Greens Superintendents recognize these top quality features . . .

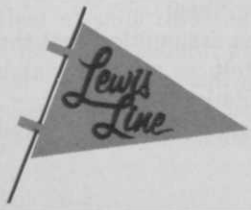
Lewis fine quality materials assure long life and easy maintenance:

(1) Tough phenolic grip holds solid stainless steel plunger shaft firmly, permits 360° swivel. **(2)** Oversize opening directs ball to nylon paddle for spin-action cleaning. Exclusive design automatically ejects ball into receiving "tray". **(3)** Cast aluminum top is designed for rough use. Easily removed to replace brushes after 3 to 5 years of normal use. **(4)** Molded fiberglass base forms large water chamber. Washer can't become rusted to post. **(5)** Outside drain plug for easy flushing.

New Fluorescent Flagpole features high visibility . . . pinpoints cup on green from 100-150 yards out. Ken Voorhies, Columbine C.C., Denver, Colorado, shows vertical stance of pole with new chamfered ferrule and chamfered cup.

Lewis Deluxe GF-555 Tee Stations are used by Wade Flatt on all eighteen tees of his Skyline Country Club at Wichita Falls, Texas. He uses Lewis Line equipment exclusively because of its dependable service.

20-55



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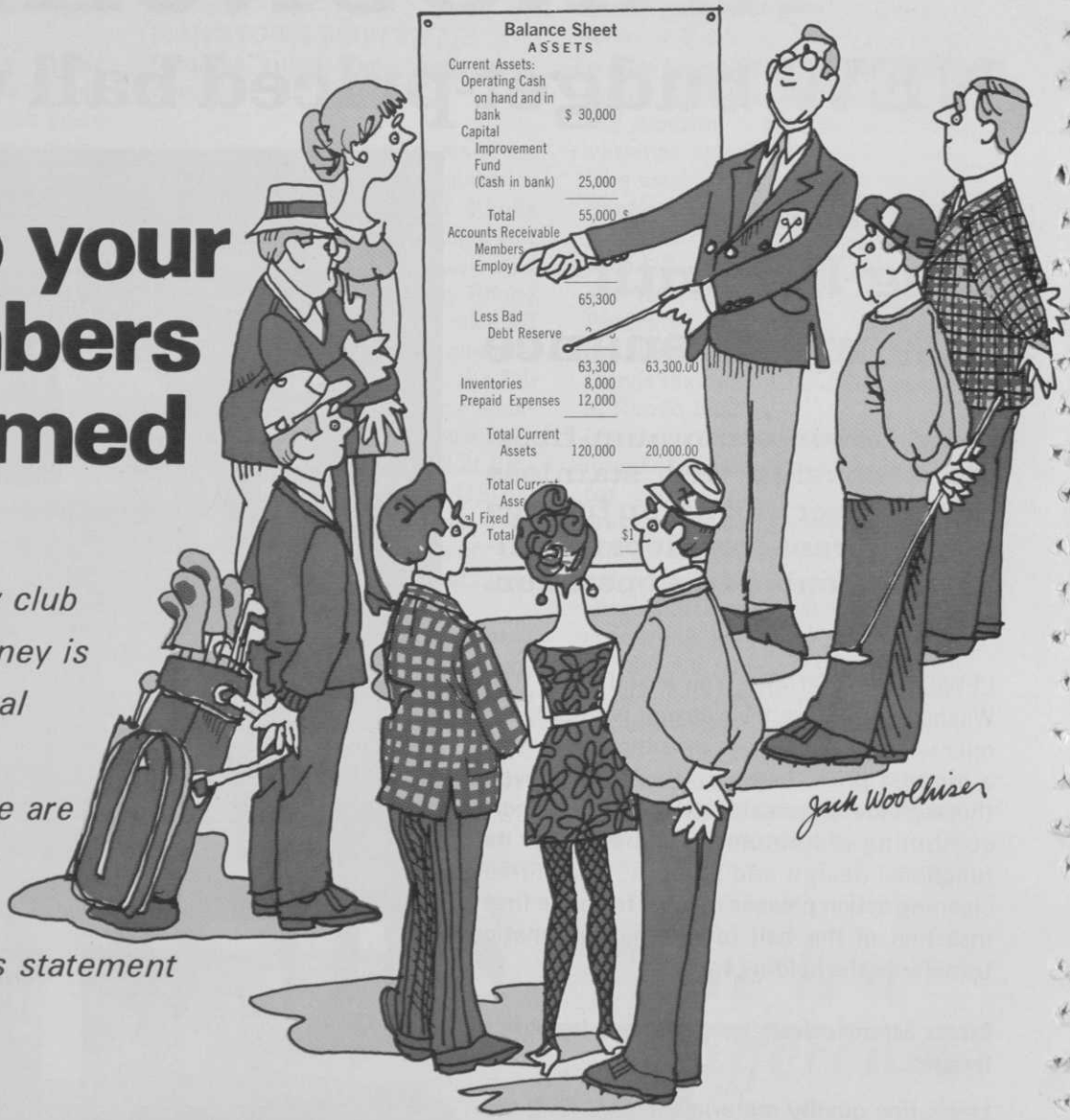
Keep your members informed

How a country club spends its money is naturally of vital concern to its members. Here are a few pointers on the annual Profit and Loss statement

By Joe Doan



Where does the money go? This is a question that is being universally asked today—down from the head of a corporation to the head of a family.

And, what with constant new assessments and rising club dues, the club member is no different. He wants to know how his club is spending his money.

Most country clubs keep their members informed of the club's financial status by issuing two annual statements—a Balance Sheet and Income and Expense Statement. At possibly one out of four or five clubs these are supplemented by reports showing a breakdown of departmental operations, application of funds statement and a statement showing capital improvements for the year.

Auditors and club accountants agree that the Balance Sheet and Income-Expense statement tell the average member of a club as much as he wants to know about how his club is faring financially and the supplementary information does little more than belabor the point.

A representative balance sheet, (see Figure 1), shows the financial status of an organization as of a given date by listing the value of its assets and the amounts of its liabilities. The difference between the two represents the net worth of the organization, with the members' equity in a club being included in this amount. In the case of the 45-year old Vallette Hill CC, the members' equity figure of $1,053,000 is not entirely representative or accurate.

If the club were to be sold it would bring at least $5,000,000 and the members' equity thus would be worth nearly five times what is shown on the club books at that time.

The $1,053,000 figure is in keeping with the established accounting principle that only what the members have paid into the club, plus any profits that have been incorporated in the net worth, should be shown in the Balance Sheet.

This principle is based on the assumption that the club plans to operate indefinitely as a country club and there is no interest in liquidation.

The counter entry in the Balance Sheet—the Fixed

Asset amount of $1,100,000—is not realistic, either. It could be shown as $5,000,000, the true market value of the club's land, buildings, etc., without really violating any accounting principles.

It would, of course, be offset by a corresponding increase in the amount of members' equity. The net result would be that the total assets and total liabilities plus members' equity would be considered higher than is shown in the present Vallette Hill CC Balance Sheet.

Practically all clubs keep their operating cash and capital improvements cash in separate accounts. Not too much cash is kept on the club premises due to the robbery problem.

Most clubs, of course, keep their operating cash in checking accounts. There is usually a heavy drain on it when a club re-opens in the spring, and in many cases it is necessary for the club to borrow money to meet its early season obligations.

In the last few years, quite a few clubs have turned to putting their surplus operating and improvement fund cash in 90-day Treasury notes so that it is quickly available and, at the same time, is earning interest while it is idle.

Vallette Hill's bad debt reserve of $2,000 is a permanent fixture in the Balance Sheet just in case some members default on their accounts. Bad debts, however, are quite effectively restricted by country clubs through the custom of posting or threatening to post names of delinquents.

The $8,000 Inventories account represents, for the most part, the food and liquor on hand in the beverage and restaurant departments.

Prepaid Expenses usually cover various insurance premiums that have been paid in advance, ordinarily for three years, and haven't yet been completely charged off. Taxes may fall into this account since they are usually paid ahead. Some clubs also include postage meter stamps as prepaid items if they have a large inventory of stamps on hand.

Under the Liabilities section of the Balance Sheet, clubs keep their long-and short-term obligations separate.

The $90,000 entry under Notes Payable represents a 15-year mortgage Vallette Hill is paying off to a local bank. Members are assessed a small amount each year to meet the annual mortgage payment.

The Equipment Notes Payable of $5,000 is for a fleet of golf cars that was purchased early in 1966.

Food and liquor, purchased for the restaurant and bar operations, and golf course and clubhouse supplies make up practically the entire total owed under Accounts Payable.

Continued on page 61

Figure I
Vallette Hill Country Club
Balance Sheet
ASSETS

Current Assets:		
Operating Cash on hand and in bank	$ 30,000	
Capital Improvement Fund (Cash in bank)	25,000	
Total	55,000	$ 55,000.00
Accounts Receivable		
Members	65,000	
Employees	300	
	65,300	
Less Bad Debt Reserve	2,000	
	63,300	63,300.00
Inventories	8,000	
Prepaid Expenses	12,000	
Total Current Assets	120,000	20,000.00
Total Current Assets		138,300.00
Total Fixed Assets		1,100,000.00
Total Assets		$1,238,300.00

LIABILITIES AND MEMBERS EQUITY

Current Liabilities:	
Notes Payable-Bank-Capital Improvement Fund	$ 90,000
Equipment Notes Payable—Currently due	5,000
Accounts Payable	13,000
Employees' Payroll Deductions	3,000
Accrued Liabilities	
Salaries & Wages	7,000
Insurance	2,000
Taxes	12,000
Interest	700
Electric Golf Cars	600
Miscellaneous	500
Reserves-Employees, etc.	15,500
Total Current Liabilities	149,300
Long Term Liabilities:	
Equipment Notes Payable (not current due)	1,000
Total Liabilities	150,300
Members' Equity:	
Balance, October 31,1966	1,053,000
Add Capital Improvements Assessment (1966)	45,000
Debt Retirement Assessment (1965-66)	7,000
Total	1,105,000
Net Loss (Year ended October 31, 1966)	17,000
Total Members Equity	1,088,000
Total Liabilities and Members' Equity	$1,238,300

The author discusses the factors affecting plant growth & lays down some

"Feed them whatever they want, whenever they need it." This is a summary of one of the modern philosophies of infant feeding. It might also be adapted to the "feeding" of turf plants. Of course, we must not attribute to grass plants an ability "to want." We can, however, attempt to ascertain the requirements of plants for optimal growth and to meet those needs.

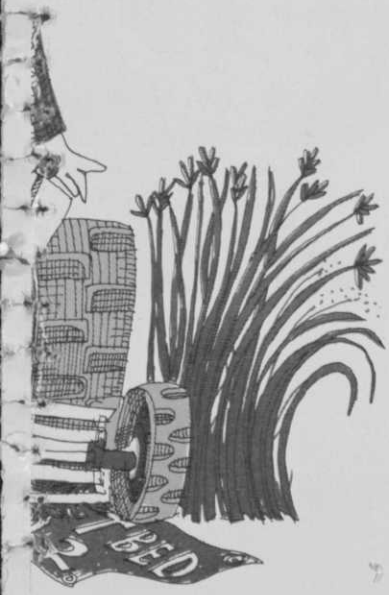
The grower of turfgrass determines by careful observation and by soil tests the nutrient status of his plants and he supplies or withholds fertilizer according to his judgment of the plant's requirements. While he may not consciously consider each of the following questions involved before using fertilizer, the successful grower is instinctively aware of the implications of the following variables.

PLANT REQUIREMENTS

How do we know how much calcium or phosphorus a plant requires for optimal growth? This seemingly simple question has been the basis of research effort for years by students of mineral nutrition. Von Liebig, one of the first students of plant nutrition, offered his concept of "the law of the minimum" in which he contended that any nutrient element which was deficient controlled the amount of growth. So, if the plant growth was limited by one element, the grower could supply an ample quantity of that nutrient, then the element which was next lowest would become limiting. This early concept has not been completely discredited even though subsequent research has brought about modifications.

The "balance of nutrients" concept is another which is controversial, but which is accorded a degree of validity by many mineral nutritionists. Briefly stated, this concept holds that the amount of each nutrient element present in the plant produces an effect on growth but that the total amount is modified by its relationship to the amounts of other elements present. H. D. Chapman considered these complex interrelationships to be important and he summarized his views by stating " . . . it is both the balance and the total which count."

The use of tissue analysis, to determine the levels of nutrient elements existing in plants, has been helpful in relating growth to nutrient content. However, there is not a direct relation-



Fertilizer - how much?

Dr. Marvin H. Ferguson GOLFDOM Agronomy Consultant

simple rules to guide the superintendent in turfgrass feeding

ship except in the case of deficiencies. Lundegardh states, "it has been objected against leaf analysis that the nutrients can vary a great deal without a corresponding variation in yield. A thorough investigation shows that this is true only at supra-optimal percentages. A distinct limit can be distinguished, below which growth inevitably decreases. Values below this limit are the only ones which have an interest from the standpoint of fertilization." Lundegardh's concept is one with which the author's investigations show agreement.

Unfortunately for the turf grower, there has been relatively little research aimed at relating the nutrient content of plant tissues to optimal growth or to the supply of nutrients in the soil, and in turn to the need for fertilizers. One notable effort in this direction is that of Noer and co-workers in which clippings from bermudagrass putting greens in Memphis and bentgrass putting greens in Milwaukee were weighed and analyzed to determine the quantities of nitrogen, phosphorus, and potassium removed by the plant. These were well-fertilized greens in both cases. The conclusion may be drawn that the amounts of materials contained in grass clippings is indicative of the ratio in which these elements are needed by the plant. It has been used as a basis for the compounding of fertilizers of a 3-1-2 ratio.

One of the facts which serves to confuse such conclusions is that potassium, particularly, is subject to being taken into the plant in much larger quantities than are needed. This "luxury consumption" appears to be more nearly related to the amounts of potassium present in the soil and to the levels of other cations present than to the needs of the plant. Hence, it is difficult to establish the necessary level of potassium.

Likewise, it is recognized that additional nitrogen will result in increased vegetative growth. The increase of growth may not be desirable. It may result in a soft succulent, disease susceptible turf. Therefore, in drawing conclusions with respect to the need for nitrogen, we must be sure to relate nitrogen supply not only to total growth but to turf quality and to those other management factors such as mowing frequency, mowing height, and irrigation.

We must conclude that we still are in need of research to answer clearly the question "What

Continued on page 38

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Fertilizer *Continued from page 35*

does the plant require?" The direction of the research appears clear. (1) We must measure the growth of turfgrass plants supplied with various definite levels of nutrients. (2) We must measure the amounts of nutrients contained in plants and relate these findings to the amounts of nutrients supplied. (3) We must determine at what levels (in the tissue) we observe less than maximum growth and at what levels we achieve less than the best quality turf.

From the practical standpoint, the turfgrass grower solves the problem by making use of soil tests to insure that there is an excess of nutrients such as calcium, magnesium, potash, and phosphorus. He then judges the need for nitrogen by the amount of growth which occurs. Lacking complete knowledge of precise nutrient needs, the grower finds such an approach to be effective and practical.

SOURCE OF NUTRIENTS

The supply of nutrients for turf (or for any other plant) are derived from the soil or from added fertilizers. The relative amounts derived from each of the two sources are dependent upon the residual fertility of the soil and upon the management practices.

Golf course roughs are seldom fertilized. For this type of growth fertilizer might be harmful because it might change the composition of the vegetative cover and it might cause so vigorous a growth that mowing would become much more of a problem.

Some fairways are fertilized very little. Carpetgrass fairways in the South and buffalograss fairways in the Great Plains area may do very well with only the nutrients they derive from the native soil.

On the other hand, bermudagrass, bluegrass, and bentgrass fairways require additional nutrients and these must come from the fertilizer bag. Apparently grass responds equally to plant nutrients supplied, regardless of the source. When plants respond adversely, the trouble usually lies in the amount, the timing, or the method in which the nutrients are supplied.

SOIL TEXTURE

The inherent fertility of a soil depends to some extent upon the texture of that soil. Texture is related to the soil particle size and therefore to the amount of surface of soil particles in a given volume. Because sandy soils have the least surface, they can hold relatively small amounts of plant nutrients and they are notoriously low in fertility. Clays on the other hand have tremendous surface area and these tiny particles are negatively charged. Thus, the positively charged mineral nutrient ions (the cations such as Ca++, Mg++, and K+) are held on the clay by an electrical bond. Silts are intermediate in size and in surface area. We can see now that with respect to nutrient supplying power, the clays rank highest, with silts being poor, and sandy soils are very low.

The texture of a soil also affects the fate of added fertilizer materials. Potassium, calcium and magnesium are likely to find a place on the clay particle where they will be held tightly and prevented from leaching. Also, since clays usually are associated with slow water movement, leaching does not occur so rapidly.

In coarse textured soils, those nutrients which go into solution are subject to ready leaching or to ready uptake by the plant. In both coarse textured and fine textured soils, some of the nutrients are likely to react with other elements to form insoluble or slowly soluble compounds.

SOIL STRUCTURE

Soil structure is related to texture in determining nutrient supplying power. Structure is also interrelated to the content of cations in the soil.

Cations such as hydrogen (H+), sodium (Na+), and potassium (K+) carry one positive charge and they satisfy one of the negative charges of the clay particle. On the other hand, the cations such as calcium (Ca++) and magnesium (Mg++) carry two positive charges. They sometimes will be linked to two clay particles having one of the charges satisfied by a single negative charge from each of two clay particles. Enough of this "bridging" or "linking" occurs to cause clay particles to become aggregated.

Very acid clay soils (known sometimes as hydrogen saturated clays) have a large percentage of their negative charges satisfied by hydrogen ions (H+). Because of the single charge of the hydrogen ion, there can be no aggregation as a result of cationic "bridging" and such a soil is usually puddled or "run together". This is the reason that liming often produces an improvement in soil structure.

Thus, we see that the chemistry of the soil affects structural characteristics. Structure and texture are both important in determining the distribution of pore space in the soil.

Capillary pore space holds water even after good drainage has removed the excess water. Non-capillary pore spaces are larger, and after drainage occurs they are filled with air. If a soil is high in silt and clay, the non-capillary pore space percentage will be quite small unless the

Continued on page 59

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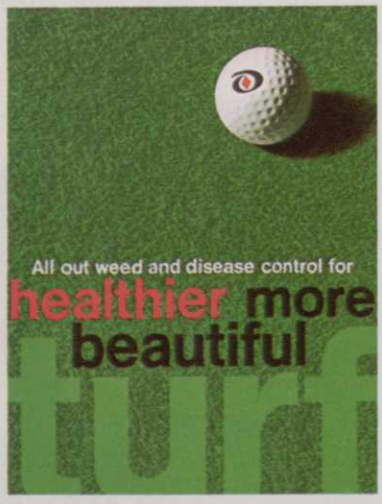

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