Surely this is not very healthy because there are few clubs in these days for which a member cares to pay the cost of resident membership just because his prestige may be enhanced and his remembrance prolonged with mention of his membership in an obituary.

The signs of more difficult times are here and even though it may be inconsequential for some it is best to be prepared.

Forecasts of future results should be scheduled and if all the factors are not in proper balance attention should be called to them. Appropriate dues should be charged if it is not too late to make changes and if so, the receipts from this kind of income enhanced by more memberships.

In any event, a fair and conservative forecast of probable future income and expense will put the manager and committee in a position to present any adverse condition which promises to result before the proper body for their consideration and action before the fact.

The indirect and other expenses which would normally be taken care of by dues, initiations and similar sources of income should not, for this purpose at least, be allocated to the departments because while there may be supervision benefits in such allocations — in a forecast or budget designed to determine the amount of dues, etc., allocations of such costs can lead to confusion and erroneous conclusions.

Even in operations doing restaurant business approximating the million mark such distribution of these expenses will in most instances drive the department into the red and the membership in general conceivably might conclude that management and committees are not efficient, when such by no manner or means is true.

In a financial statement covering operations for the last fiscal year by one large and well operated club the audit committee makes note that after allocation of indirect expenses the revenue producing departments showed a loss of about $200,000.00 and this was offset to such an extent by revenues from dues, initiation fees, etc., so that a substantial net profit accrued to the institution.

The terminology "net profit" is not good when applied to club statements — it might better be called "net provision for contingencies" or "provision for retirement of mortgage," etc., because very often the term "net profit" is misleading — it leads the membership to believe that prices for services should be reduced or that there is no need for more members or that no greater return in dues income and the like is required.

There are two clubs in this area, neither of which have any surplus to speak of, and the manager and committee have been
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At last—a 100% soluble liquid fertilizer that will help you keep those greens and fairways in better shape, with less work, the year around.

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"NA-CHURS" PLANT FOOD COMPANY Marion, Ohio

THE PRACTICAL APPROACH
(Continued from page 36)

pounds per acre) are used each time by the spray method. When Milarsenite is used, several applications at 200 to 300 pounds per acre are needed. Late summer and early fall are the best times to eliminate chickweed, because reseeding can follow, when necessary, after killing the chickweed. Spring is a bad time when the infestation is heavy, because heavy infestations of clover or crabgrass may follow.

Knotweed is another hard-to-kill weed with 2,4-D after the seedling stage. Once it becomes stemmy, 2,4-D fails to give a good kill at ordinary dosages. It can be killed very easily with sodium arsenite at any stage of growth. Not over one ounce per 1,000 (2½ pounds per acre) is needed in the two-leaf stage. Spraying is best because there is not enough leaf surface to collect and hold a lethal dose by the dry method. Sodium arsenite is better than 2,4-D at this stage when grass is to be seeded into the area.

On watered courses where broadleaf weeds, clover, chickweed, poa annua and knotweed constitute the ground cover, complete renovation is best. The fairways should be sprayed in spring to kill broadleaf weeds, using 2,4-D at ¼ to ½ pounds per acre. Starting in early July, sodium arsenite should be used three or four times at 7 to 10-day intervals to kill chickweed, clover, poa annua, and knotweed. The fair-
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ways should be seeded with Colonial bent in late August or early September, just before the last treatment. Fertilizer should be applied first, then a seed bed prepared with the spike disc or Aerifier. The fairway should be seeded and the last application of sodium arsenite made.

Sodium arsenite can be applied as a spray or by the dry method. The spray treatments are more drastic on the grass and on the weeds as well. Dry treatments are safer and will not permanently harm the grass, provided the soil is sufficiently moist for growth to a depth of 4 to 6 inches, and rates of 3 to 4 ounces per 1,000 square feet are not exceeded. During warm weather, when temperatures exceed 80 degrees Fahrenheit, not more than 1 to 2 ounces per 1,000 square feet of sodium arsenite should be used by the spray method. Milarsenite is used at 200 to 300 pounds per acre when the temperature range is 70 to 80 degrees Fahrenheit, but when it is over 80 degrees, rates should be 200 pounds or less per acre.

The Rhode Island Station has obtained excellent crabgrass control with phenyl mercury acetate. High cost is its chief drawback for fairway use. New Jersey tested a number of products. Good control was obtained with phenyl mercury compounds, with potassium cyanate and other products. These new compounds may have a place in the weed control picture.

Chemical soil tests are helpful guides for determining need for lime, phosphate, and potash, but not for nitrogen. Need for nitrogen can be judged by turf condition, the amount of clover and weeds, and by the color and texture of the soil.

Chemical tests are meaningless unless the soil samples are collected correctly, and a dependable method of testing is used.

Samples from grassland areas should be taken to an exact depth of TWO inches, and the individual plugs should be of a uniform diameter. This is important because the soil is never disturbed on grasslands. Hence the content of available plant food decreases with depth. Results differ widely on plugs taken from the same spot but to DIFFERENT depths.

A good sampler, shown in the accompanying illustration, can be made from a discarded steel golf shaft. One with a heavy side wall should be used.

From eight to ten plugs per sample provide enough soil for making the tests, and insure accurate sampling. Moderate size samples cut mailing costs and simplify laboratory preparation of the sample for testing.

A clean new container should be used for each sample, otherwise the soil may become contaminated. Small paper bags (1/2 to 1-pound size) are excellent and may be obtained at any grocery store. Write the
The Lint Sod Cutter

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The Lint Sod Cutter has been designed and built for easy one-man operation. Light in weight but sturdy, this cutter requires no more pressure than is required to drive a spade into the ground, then by a series of easy forward shoves, the blade will cut smoothly and evenly under the grass roots, leaving a straight, almost invisible cut. The sod may then be rolled or cut into short lengths for easy handling and replaced without damage to the grass. The smooth even cut allows the sod to fit evenly back into place and the surface is ready for immediate use.

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The need for lime should be based on soil reaction. The amount to use depends on the degree of acidity, the kind of predominating grass, soil texture, and the kind of lime available.

Soil reaction is now expressed in terms of pH. By this method the figure "7" represents a neutral soil, higher figures denote increasing alkalinity and lower ones increasing acidity. Differences are in multiples of 10, so pH 6 is 10 times, pH 5 is 100 times, pH 4 is 1,000 times, etc. more acid than neutral (pH 7). Soil having a
A C. SCHENDEL, Distributor
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July, 1949
Applying agricultural lime to an acid fairway. On this course lime is worked in with a brush harrow, applied without disturbing the availability of trace elements. From two to four tons, or more, can be applied at one time. Additional lime will not be needed for three to five years.

Ground limestone is produced in several grades, depending upon the degree of fineness, and is priced accordingly. The finely ground product acts faster, but effects are not as lasting. In regions where lime is expensive, the customary practice is to make lighter and more frequent applications of a finely ground product but where lime is cheap, a coarser ground limestone is used generously at infrequent intervals.

Sometimes acid soils are low in magnesium. Then the lime used to correct acidity should contain magnesium as well as calcium. Magnesium containing lime is commonly called dolomitic limestone, or simply dolomite. The dolomite used should contain not less than 20 to 30 per cent magnesium expressed as the oxide. The analysis is usually printed on the bag, otherwise it can be obtained from the manufacturer.

Spring, fall, and winter are the best times to apply lime. Ground limestone can be applied at any time, but it is unwise to use hydrate at rates exceeding 1,000 pounds per acre during the summer, otherwise it can be used at 1 ton per acre.

When soils are strongly acid, lime should be applied as long as possible before fertilization with phosphate. Otherwise, the phosphate may be fixed in the soil as relatively insoluble iron phosphate.

**Fertilization**
An effective fertilizer program is predicated upon the fact that nitrogen is the important element on established fairway turf. Phosphoric acid and potash play
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secondary roles because clippings are not removed. As they undergo decay, they and other mineral elements in the clippings are released and taken up by the colloidal fraction of the soil. Phosphate has a marked stimulating effect on the root development of young germinating grass seedlings. For that reason it is important on new seedings, and on reseeding jobs during renovation.

Potash is seldom needed on loam or heavier textured soil. It may be required on peat and very sandy soil. A soil test is a useful guide. Heavy potash feeding without enough nitrogen may stimulate clover.

Where reseeding is not contemplated or required, need for lime, phosphate, and potash should be determined first. After requirements for them have been satisfied, turf improvement becomes a matter of nitrogen feeding.

Soil tests are helpful guides in determining need for phosphate, provided a dependable method is used. Some show need for phosphate which is not borne out by field results. Tendency in the past has been to over-emphasize the need for phosphate on established fairways. When tests show it to be low (75 pounds per acre or less by the Truog Method), an initial application of 75 to 100 pounds actual phosphoric acid should be made. This is equivalent to 400 to 500 pounds superphosphate, or 800 to 1,000 pounds of 5-10-5, or 4-12-4. After that a fertilizer containing one-third to one-half as much phosphoric acid as nitrogen will furnish enough, provided the rate per acre is sufficient to furnish 20 to 30 pounds actual phosphoric acid per acre. More may be needed on the occasional soil of extremely high fixing power.

Nitrogen must be used generously until turf of desired density is obtained. From 80 to 150 pounds per acre of actual nitrogen is not too much. This is equivalent to 1,500 to 2,000 pounds per acre of cottonseed meal or Milorganite. It is not safe to use that much nitrogen from soluble fertilizer at one time. The better plan is to apply about 40 pounds actual nitrogen and repeat with the same quantity a month or six weeks later.

Phosphate should be used generously before seeding or when reseeding established fairways, irrespective of the soil test. The fertilizer used should supply not less than 100 pounds per acre of actual phosphoric acid. Nitrogen should be used also in order to encourage vegetative growth.

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NEWS from the MANUFACTURERS

BOB HAMILTON JOINS MACGREGOR
PGA 1944 champion Bob Hamilton has joined the MacGregor Pro Advisory and Technical staff, announces Henry Cowen, pres. MacGregor Golf Co. Hamilton, a Hoosier now playing from Prince George's G&CC, Landover, Md. since joining the professional ranks, has won besides the PGA the North & South Open twice, New Orleans Open, Charlotte Open and numerous other tournaments.

BEVERIDGE WOOD POPULAR
No. 5 wood made by Wm. N. Beveridge, 430 N. 99th St., Milwaukee, Wis., is selling in pro shops at satisfactory rate. Beveridge, one of the old masters of bench club-making, made the wood for men and women who can't play a crisp 2 or 2 iron. This No. 5 wood seems to do the job for them and provides another exclusive and helpful profit-maker in the pro shop.

EZEE FLOW SPEEDS UP TOPDRESSING
Pat McDonald, professional - owner of Rob Roy GC, Mt. Prospect, Ill., uses Ezee Flow Spreader and Seeder to topdress greens on his course in minimum time. Loading shredded compost prepared by Royer machine into hopper before starting on each green, Pat is able to topdress a green in 15 minutes and can do nine greens in one morning. He has found by adjusting Ezee Flow he can get a uniform distribution of compost making it unnecessary to brush in topdressing. Top photo shows spreader being drawn by light tractor. Bottom picture shows hopper being filled from truck prior to start of operation on the Rob Roy course.
JACOBSEN MFG. CO. NAMES NEW DIRECTOR OF SALES

Oscar T. Jacobsen, Pres. of the Jacobsen Mfg. Co., Racine, Wis., has announced the appointment of M. J. Walker as Director of Sales. This newly created position brings together under one head the sales and merchandising policies of the company and its subsidiaries, the Worthington Mower Co. of Stroudsburg, Pa., and the Johnson Lawn Mower Corp. of Ottumwa, Iowa. Mr. Walker has been singularly successful in getting widespread dealer distribution and brings to Jacobsen the benefit of his many years of experience in the lawn mower field.

NEW WEED AND BRUSH KILLER

The American Chemical Paint Co., Ambler, Pa., has brought out Weedone Brush-Killer 32, a new product containing 11 per cent 2, 4, 5-T and 23 per cent 2,4-D. Killing of over 85 varieties of woody plants is shown by experiments on more than 6000 acres under study. Weedone Brush-Killer 32 will mix with oil for low volume spraying, or will mix with water for commercial sprayers using high volume.

BOYLE WITH HAGEN

Bill Boyle, a 25-year veteran as a golf professional, has joined the sales staff of the Walter Hagen Division of the Wilson Sporting Goods Co. He will serve in the eastern half of Pennsylvania as well as in the Baltimore and Washington section. Boyle resigned from his professional post at the Beverly Hills GC in Philadelphia to take over his new job. Very active in PGA affairs, he has served as a member of the Board of Governors, chairman of the tournament committee, and secretary of the Philadelphia section of the PGA.

July, 1949
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Notable Courses for 25 Years.

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Quick Service on All Types of Repair Work.
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2883 Poplar Avenue, Memphis 11, Tenn.

MacGregor Golf Co. announced recently the appointment of Pete Robbins (right) to its Pro sales organization in an effort to better service the professionals in the Metropolitan New York, New Jersey and Connecticut areas. Pete will assist his father, Tom Robbins, dean of the MacGregor Sales organization shown here giving young Pete some of the fine points of golf club head construction. Pete served his golf apprenticeship at the MacGregor branch office in New York City following three years service in the Army Air Corps. It is believed that Tom and Pete form the only father and son combination in Pro golf today.

AID FOR LEFT ARM CONTROL

Strokontrol is a new reinforced bandage manufactured by the Elmaca Co., 62-64 Main St., Bradford, Pa., to aid individuals who have trouble in controlling the left arm. It is designed to improve control of the left arm from back swing to follow-through.

DESIGNED FOR WEED KILLERS

The F. E. Myers & Bro. Co., Ashland, Ohio, announce the production of two types of hand sprayers for applying 2,4-D and similar weed killers—the Kwikfill compressed air sprayer and the New Idea knapsack sprayer, both of which have been fitted with neoprene hose and special leather gaskets enabling the operator to use oil-base weed killers without damage to hose or leathers. The Kwikfill sprayer