Eddie McElligott, jr., son of the veteran pro and a fine golfer with experience as ass't. pro, back from military service and taking a course in club and hotel management at Oklahoma A&M, Stillwater, Okla. Eddie, jr. ought to be a good man for running a smaller club when he gets out of school soon. Metropolitan (N.Y.) Golf Assn. advises member clubs to discontinue paying caddies out of club funds with members signing tabs, and have golfers individually pay caddies. Otherwise clubs may get in trouble on withholding tax and state labor law records.


E. E. "Bubber" Johnson from Blue Grass CC, Henderson, Ky., to be supt. at new Hillwood Club, Nashville, Tenn., will be in charge of building club's 18 to plans of Dick Wilson. Johnson succeeded at Blue Grass by Peck Leslie of Florence (Ala.) CC. Bud Carroll supt. in charge of building 18-hole Sherwood Forest CC at Baton Rouge, La. Charles Brown signed as supt. of Fox Meadows CC, Memphis, Tenn., for which Chick Adams has designed and is building new course. Dr. W. M. Woods heads Carthage (Miss.) CC which is building new course. Tullahoma (Tenn.) CC new course opened.

Superintendents
Report After Using AQUA-GRO
“Wetter Water Solved
Many Turf Problems”

Effects of Thatch Are Cured
Areas suffering from the effects of thatch are cured by one full treatment of Aqua-Gro. Subsequent waterings percolate freely through the thatched areas. Wet without waterlogging. Aqua-Gro is economical, one application costs approximately 75¢ per 1000 square feet.

Effects of Hard Spots Eliminated
The effects of hard spots on greens are eliminated. Treated water penetrates quickly and deeply into the soil. Uniform water penetration in soils reduces tendency to overwet areas next to hard spots.

Dew Eliminated
Periodic application of Aqua-Gro to greens prevents formation of dew 'round the clock. Fungus growth is discouraged. Costs approximately 20¢ per 1000 square feet. A considerable savings over other methods of dew removal.

Deeper Water Penetration
Plugs of earth from compacted, hard-to-wet areas prove water penetrates up to 600% greater depth if areas are treated with Aqua-Gro. More even distribution of water in the soil results in less frequent watering and better control of turf.

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5-Gallon Pail Treats 86,000 Sq. Ft. $60.00 Freight Prepaid

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Fiftieth anniversary of Southern Golf Assn. to be observed during annual championship at Druid Hills GC, Atlanta, Ga., May 7-12. Fay Crocker signed to play in Triangle Round Robin at Cavalier Yacht & CC, Virginia Beach, Va., June 6-10 for which Triangle Pres. John E. McAuliffe puts up $12,000 prize money. Fay also signed to play at Oak Hill CC, Rochester, N.Y., June 9 as Women's National Open champion in round with Jack Fleck. Miss Crocker's score to be the one against which the girls and women will compete in the PGA-sponsored National Golf Day. Seems to be logical probability that conflict of engagements will be settled by the Crocker round at Cavalier being the one...
By HOWARD BAERWALD
Supt., La Grange (Ill.) Country Club
(Address at GCSA annual conference)

By definition, a budget is a financial statement of estimated income and expense over a period of time and a plan for financing a business or government based on such a statement.

You find an example of budgets right in your own home. A level-headed person knows what his income is and any home planning and food consumption will have to stay within those limits or that person will eventually be in financial trouble. In budgeting each one of us does some of it every day quite unconsciously. On the golf course we have to take the man-hours instead of money and plan ahead so we get the most work possible finished in those eight hours.

A private club is supported primarily through its membership. Because the membership is billed each month for dues, we can say that the income is a fixed sum. Clubs as a rule declare themselves a non-profit organization. The governing body of a club is selected from its membership and committees are established to head the various departments. Because these men are not under a salary of any sort from the club, it is necessary for them to hire capable men to take the responsibility of operating the departments.

The board of governors will possibly meet before a fiscal year begins for the express purpose of studying the breakdown of club income for the next year’s operation. The different committee chairmen will present their budgets for approval. Discussions will follow, sometimes heated discussions, I might add, and the committee chairman with the most complete and convincing argument will come out with the major amount of requests granted. All of these departmental budgets added together usually add up to more than the anticipated income and hence some of them get the axe until the total budget balances the expected income.

In the case of a club owned by an individual, the budget proposition takes on an entirely different light. Being rather unacquainted with the relationship of a club owner and his course superintendent, I asked them a few questions. I find, first of all that in general every department has to be a paying affair or it ceases to exist. The budget, where there is one, is quite often a verbal affair or, if it is on paper, is usually folded up and put in somebody’s pocket. Once through the wash and it is no more. The verbal agreement decided upon by the owner and grounds superintendent can be very easily affected by any change in income. For example, two rainy weekends in a row might put a big crimp in some plans for grounds improvements. Even though that possibility exists, I found a few cases where the superintendent is just as well off or may be even better off, machinery-wise and salary-wise, with this arrangement than many of the so-called “rich clubs”. This situation is the exception rather than the rule.

Governed by Accounting System

The reason for budget systems being as we find them may be due to the bookkeeping systems which were set up. In some clubs certain items are grounds, clubhouse or administrative and in still others these may be general overhead. If you have a poor budget set-up, perhaps a new and ambitious treasurer may be elected and he will take it upon himself to revamp and simplify the system. Maybe an ambitious superintendent could come along and simplify records and reports between bookkeeper and grounds department.

These systems drawn up years ago may be responsible for the fact that some golf courses have budgets set up to include everything inside the fence and outside the clubhouse whereas others are set up to include nothing but the actual golf course.

On the other hand, a superintendent may have come into the job of handling the course by itself and over a period of time convinced those in charge that he was capable of handling more responsibility, such as supervision of tennis courts, pool, playground or clubhouse areas. This in
turn enables him to command a greater salary. On thinking this over, it may work in reverse.

One may ask why in one case electrical power for irrigation is charged to grounds while in another case charged to general overhead. The only reason I can give is, again, the method of bookkeeping employed. In strict accounting, I would say that where power is charged to general overhead, one can not have a true picture of the operating expense of a grounds department. On the other hand, it gives the grounds that much more money for operations elsewhere. I'd be the last in the world to howl if my club decided to take the 990 dollars which we used for power last year and charged it to club overhead while leaving my budget stand as it was.

**To Compare Accurately**

The most basic remark one can make on budget comparison, in order to do it properly, is for one to understand fully the bookkeeping systems of the clubs compared and to completely break down all figures. Any quicker or shorter method may result in an untrue picture.

A complete breakdown of figures for budget comparison is in the booklet entitled, "Survey of Golf Course Maintenance," prepared by the information committee of the Midwest GCSA. It is a very detailed questionnaire of every phase of golf course management. It also has an illustration of a practical budget.

In our club's work, we refer to the expense budget as how we intend to spend next year's allotted figure.

This is strictly a basic list.

First are our items of basic maintenance — salaries and wages, social security, fertilizer, gas and oil, fungicides, equipment repairs, building repairs, irrigation repairs, electrical power and in some cases, water. From there we go into items different to every course — winter sports or tennis, lawn bowling and others, trees or shrubs and flowers, seed and sand, sod and dirt and certain sums which will be used for any long range program already in progress.

In a case where the superintendent is asked to draw up a budget, it might be an idea to draw up a list of last year's expenditures as closely as possible and duplicate it for the following year. Be sure to keep in mind the changing prices of labor and supplies and add or subtract on each item as you go through the list.

While making out the budget is the (Continued on page 88)
Turfgrass Questions Answered by Grau

WHERE sound principles have been followed in the construction and planting of greens the job of maintaining the greens is made much easier. Still, certain basic principles of maintenance must be carried out in order to keep the greens as perfect as new.

Soil management to maintain physical and chemical fertility is essential. The productive soil must contain needed plant nutrients plus sufficient oxygen that plant roots can function to take up nutrients. Adequate fertilization is a principle that everyone should recognize by now. Clippings are removed from putting greens so all the plant food used for growth must be replaced by fertilizer. Nitrogen is the most vital element for grasses. Frequent, light applications throughout the growing season usually are preferred. Phosphorus and potash may be applied spring and fall.

Lime influences both chemical and physical soil conditions. It neutralizes soil acids, thereby raising the pH. In clay soils it has the physical effect of improving structure by aggregating small particles.

Use Aerating Tools

Physical soil condition is maintained by mechanical loosening of the soil to overcome compaction. Aerating tools, used regularly, keep soil porous and well-ventilated.

Proper use of water is another fundamental principle. Water deep but water seldom is the general rule to follow. Light sprinkling that wets only the soil surface restricts root growth to this shallow moist layer. Frequent watering that keeps soil saturated suffocates the roots, encourages disease and breaking down of soil structure. Water deep and then don’t water again until the grass needs it. Water in the early morning, rather than at night, to reduce disease. Keep soil open to prevent wasteful runoff and assure deep penetration.

Control of disease is a basic principle. Disease can weaken or destroy large areas of turf on putting greens. If good cultural practices are carried out the disease problem is less severe. Even so, it is wise to protect the turf with preventive chemicals when weather conditions are critical.

Control of insects is another fundamental. Insects weaken the turf and allow weeds to invade. Fortunately, we have excellent insecticides to give protection from insect pests.

Control of weeds is basic. Proper watering and the control of diseases and insects that weaken turf will go a long way in preventing weed invasion. Tight, vigorous turf is the best defense against weeds. If turf becomes thin enough to prevent weeds to come in, then chemical control may be necessary.

Grain and Thatch Control

Control of grain and thatch is a basic principle. Close, frequent mowing and the use of brushes and combs help to prevent grain and thatch. Regular use of vertical mowers is the surest way to prevent grain and thatch, and to ensure a true putting surface at all times. Vertical mowing to remove surface accumulation makes disease control easier and it helps to limit the spread of weeds, too.

Proper mowing is another fundamental. Proper mowing on putting greens means close cutting to keep a tight, smooth turf. It must be frequent so only a small amount of leaf length is removed at each mowing. The greens mower is a precision tool. Blades must be sharp enough to cut clean without bruising. Machines must be kept in perfect condition to provide a uniformly smooth cut.

Trained labor also is basic. The men who work on putting greens must be capable of careful workmanship. They must understand the importance of using the proper quantities of chemicals and the necessity for keeping machines in good operating condition. They must be trained to use sprayers and distributors properly so
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...there is no skipping or overlapping. They must be taught to handle machines skillfully, to make turns off the putting area, to adjust machines correctly for the existing conditions.

Even though we know the basic principles of maintaining turf, few people could maintain perfect putting greens simply by reading the rules. The alert care of an experienced superintendent is an important factor. The ability to recognize unusual conditions, to interpret and to treat them correctly is the quality that makes a good superintendent indispensable.

Q—We wish to improve our tees. Would you advise seeding them with Merion bluegrass or with Bermuda? (N. C.)

A—I would not recommend seeding either Merion Kentucky bluegrass or Bermuda. I am a firm believer in sodding tees with a good solid sod from a nursery. The areas are small enough so it is practical and the tees can be used within a week or ten days after sodding. Unless tees are heavily shaded, I doubt that Merion would be the best grass. One of the improved Bermudas which are grown from sprigs or stolons would be much better. Among these are Tiffine, U-3, Uganda, Gene Tift. Once established, a sod nursery is a never-ending source of planting material.

Q—We wish to establish bentgrass greens. Which strain would you recommend for our area? (N. M.)

A—A bent that is giving good results in high temperature areas is Cohansey (C-7) bent. Heat resistance is one of its outstanding characteristics. Pennlu is another good strain of bent but it has not yet had its "baptism of fire" in the high-temperature areas.

Q—Pearlwort on putting greens is our problem. What do you advise? (Wisc.)

A—Research at Penn State has shown that the better strains of creeping bent are effective in crowding out pearlwort. The most aggressive we know of to date is Pennlu creeping bent. Congressional (C-19) is another good one for your area; also Toronto and Old Orchard.

I would recommend that you establish a sod nursery (maintained like a putting green) of bents from which you can take sod plugs to replace plugs of pearlwort that you remove.
Pearlwort seems to thrive on lots of moisture. Perhaps there could be some way of reducing the amount of water applied. Vertical mowing helps to reduce pearlwort by thinning it. Arsenate of lead helps to discourage pearlwort. Apply 5 pounds to 1,000 sq. ft. at each application, repeat once a month until results show—then twice a year, spring and fall.

Q—What are the controls for goosegrass? (Mass.)
A—One of the controls that has been used with a fair degree of success, particularly in the southwest, has been a combination of phenyl mercury acetate and 2,4-D. This is a bit risky in the humid areas, but has been used successfully. Another control for goosegrass is di sodium methyl arsonate (sold under various brand names). Vertical mowing is a good mechanical control.

Q—We have used calcium cyanamid to sterilize topdressing at different times. Sometimes the results are very good indeed, but at other times it is not nearly so effective. Have you any idea why we cannot always obtain the same results? (Ky.)
A—Cyanamid requires warmth and moisture in order to work effectively. Soil material should be kept moist, though not soaked. If the proper amount of cyanamid is used and the temperature and moisture factors are correct, then you should obtain consistent results.

Q—Do seeded or stolonized bents root more deeply? (Ia.)
A—I do not know of any comparative data on depth of rooting of seeded and stoloniferous bents. I rather think that other factors influence rooting depth. Improper watering, a surface thatch or buried layer would induce shallow rooting, regardless of the type of bent. On the other hand, good drainage and aeration, deep watering and feeding would promote deeper rooting of any grass.

Q—Soil in our greens is sandy and well-drained, which I understand is the ideal condition. However, we find that the greens dry out quickly and the grass is rather thin and of poor color. Do you think we have too much sand? (Mich.)
A—Not necessarily. Have you taken into consideration that grass growing on sandy soils usually demands more frequent fertilizing? The usual fertilizer recommendations, based on “average” conditions, must be varied to meet individual needs. In your...
case, more frequent applications to compensate for leaching may be needed. The extra feeding helps the grass to put down deep roots, thus less frequent irrigation is required.

Q—What is a good fertilizer to use on bent greens to start them out in the spring? What rate would you use? Would you add arsenate of lead to control worms? (Wis.)

A—A well balanced fertilizer for early spring use is 10-10-10 (or similar) used at the rate of 10 lb. to 1,000 sq. ft., or, sufficient to supply one pound of nitrogen to 1,000, plus phosphorus and potash. It is well to have part of the nitrogen quickly available—the remainder slowly available derived from natural or synthetic organics.

Applying the spring fertilizer immediately following thorough aeration will serve to get deeper penetration of the fertilizer more quickly to aid root growth. I have seen countless good examples of the value of adding 5 lbs. arsenate of lead to the fertilizer. Not only does it check worms but also chickweed, poa annua, etc. Don't forget that soil test to keep a check on your "soil bank."

Q—You recommended 10-10-10 fertilizer for early spring use. Should this be applied "as is" or should it be mixed with black dirt or Milorganite to keep it from burning? Did we understand also that we could add 5 lbs. of arsenate of lead per 1,000 sq. ft. or was it 5 lbs. per green? (Wis.)

A—If you apply the mixed fertilizer (10-10-10) to the green immediately after you have aerified and before you break the plugs and drag them in, you will not need to mix it. It will be mixed sufficiently with the soil of the plugs to keep it from burning, particularly since you will water the green well when it has been finished. If you apply the fertilizer on the grass without aerating of any kind it will be a good idea to mix it with some non-burning material and water it in well. The rate for arsenate of lead is 5 pounds to 1,000 sq. ft.

Q—We have a watering system which we use to draw directly from the lake. The big question is, when is the best time to water; in the real early morning or at night? Please give us your opinion. (Wis.)

A—The best time to water is in the early morning. This washes the dew and the guttated water off the grass blades into

(Continued on page 114)

Finest Silver Crab Killer Available

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10-15-5—15-10-5—15-5—32-0-0—or whatever desired, comes in crystal form also.

- Greens: Apply with regular sprayer. 1 gal. Gro-Green to 20 gal. spray solution. Covers approx. 10,000 sq. ft.
- Fairways: Regular Sprayer. Use 2 gal. per acre with 8 gal. of water.
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Prepared Course Budget

(Continued from page 83)

ideal time to start some long range programs after the items of basic maintenance are gone over, there may be some project in your everyday operation that particularly irritated you and, besides, took a lot of extra time. An item can be made stating the amount of money required to correct the situation. Just below it or on a note attached should be an explanation of the requests, how it will benefit the club, and, if budgeted for several years running, will improve the situation and also not have to be corrected as one major expense.

Budget Long Range Programs

Long range programs can be set up for objects as small as ball washers, replacing four or five each year depending, of course, on how much use they get or if you have several types and want to standardize. This type of program should be carried out as a result of your own decisions.

There are long range programs in effect which include rebuilding all the greens over a period of years. A program as large as that must be thoroughly understood by the board of governors. Also, in the case of a board of governors where new members are voted in each year, there is usually an understanding that the program can be carried on and executed in good faith. On questioning different people we've found out that various governing bodies and especially green committees, seek individuals to serve who are sympathetic to general improvement on golf courses. The point most valuable in a long range program is that even though there is no great improvement in the first year or two, there should be a long term general improvement. Every change you make should be according to a plan and where these programs are in effect, one usually sees a golf course just a little more modern and a little better than average.

Another department which benefits from the long range program is in machinery replacement and new buildings. These items, because of greater cost and longer life, are set up in records as capital investments and are depreciated for tax purposes over a period of years.

Those of you operating under a budget know when to put in your requests for new machinery judging from the life of the present machine or if there is need for a machine not acquired before now.
In a case where the superintendent is preparing his first budget, I would suggest to keep course maintenance figures and capital expenditure requests separate both on paper and in discussion with your employer. If for no other good reason than it is in line with a more proper system of bookkeeping.

A good method of supporting your capital expenditure budget would be to draw a graph illustrating how long in terms of years each machine will last. On doing this you might discover that in the year 1959 for example, you will need two new greens mowers but also, the fairway mowers will need replacement. When your employer is faced with this dilemma, the chances are that he will work more closely with you in a definite program of replacement. Such planning will show, not only your interest in your own welfare, but also care for the welfare and future of your employer.

**Monthly Budget Picture**

In some cases, there is one more step required in budget preparation. In my case, for example, I am asked to prepare with my annual budget, a monthly breakdown of the estimated expenses. At our club the bookkeeper prepares a monthly report and in this report is given the expenditures for the month and the expenses to date, as well as the proposed budget. At the regular monthly meeting of the governors, the budget figures and actual figures are compared in each department to see whether we are progressing according to plan.

The best thing to keep in mind is the fiscal year of operation of the club. Usually at the monthly meeting in the 11th or 12th month of the fiscal year, the subject of next year's budget is brought up. By this time your budget figures should have been thought out, put down on paper together with your reasons for requests. After these are gone over between you and the greens chairman, he will turn it over to the Board for discussion.

In presenting a budget, we are not presenting a list of so many figures. We become a part of management because we are projecting our thoughts and ideas along with the budget. We should be sold on every item of request and during discussion with our employer, show him in detail where we think he will benefit both now and in the future. This proves itself in a small way to be a good job in public relations.
On a larger scale this will demonstrate that we are capable of handling new scientific methods and business techniques and that we are willing to accept responsibility. The grounds chairman to whom I report says that he wouldn’t want a superintendent of grounds who couldn’t prepare a budget, who didn’t plan for the future and who didn’t live within the budget.

I want to emphasize that I believe that I do a better job because the budget keeps me planning for the future and makes me feel like I am responsible for running a business which I enjoy and also is enjoyed by all those who use our golf course.

Swinging Around Golf
(Continued from page 81)
against which women who pay the $1 entry will compete.

Roy F. Schoepf, for 15 years US Rubber golf ball salesman, has an attractive par-3 course, Mount St. Helena GC, at the Napa County fairgrounds, Calistoga, Calif. . . . He’s got six holes in the infield and three hole outside the track . . . The infield holes are lighted . . . Lights also serve for baseball and football . . . Roy says par-3 course may be right answer for many county fairgrounds that have year-around expenses but generally only a week or so income . . . Roy was one of the four fellows who started the Golf Salesmen’s Assn. and now in mgr. of the Napa County Fair.

Stevens Point (Wis.) CC revising its second nine and will install fairway watering . . . Also will build swimming pool . . . Wadena (Minn.) GC to build grass greens . . . Homestead Women’s Open to be played on Cascades course, Hot Springs, Va., July 12-15 . . . Fay Ingalls and Thomas J. Lennon to give $6500 prize money, with $1450 for first and $1000 for second . . . Paul Coates designing another 18 to be added at Keller park, St. Paul, Minn.

Willie Kidd designs a second 9 for Stillwater (Minn.) GC which will be built soon . . . John Sproul, US Rubber golf ball department head, has talked before 2640 pros in series of sales meetings which began with the dinner, movie of US ball-making and John’s talk on ball selling during Seniors’ Week at Dunedin, Fla. . . . Another 25 cent edition of Jackie Burke’s book “The Natural Way to Better Golf” printed after Jackie won the Masters . . . Book also partially reprinted in Chicago Sun-Times and other papers.