

# Grau Answers Turfgrass Questions

From many courses Dr. Fred V. Grau gets and answers the problems handled in this monthly department of GOLFDOM. Superintendents and club officials can avail themselves of this service without charge or obligation. Address your question to Grau Queries, GOLFDOM, 407 S. Dearborn, Chicago 5, Ill.

**L**AST month we discussed "principles" and their importance in everything we do. Every one should learn the same basic principles for whatever work they do, but what a variety of results different people achieve from the same starting point! Principles do not restrict imagination; rather they are the foundation from which all of us may build successfully.

## Principles Are Important

In the construction of golf courses every architect should follow the same basic principles for proper construction. Yet, from the same beginnings, human imagination creates the individual differences and characteristics which distinguish the work of various designers.

There are basic principles to be followed in planting greens. Learn these principles and then adapt them to meet your conditions. First of all, a successful green is dependent upon a good base. This means adequate drainage, with subgrade contoured to avoid pockets that hold water.

A good soil mixture and a sufficient depth of soil are basic principles. There should be a minimum of 12 in. of coarse, sandy loam placed over subgrade, topped by 6 in. prepared material containing 60 to 80 percent sand, 6 to 8 percent clay, 12 to 15 percent organic matter, all by volume. Mixing should be done off the site and prepared material hauled to the green. Mixing of materials in place by tilling has not been wholly successful.

The proper soil pH is a basic principle. To the material for the top 6 ins., should be added dolomitic limestone (if needed) to bring soil to a pH value of 6.5 to 7.0.

Adequate fertility is another basic requirement. Fertilizer may be blended into the topping along with limestone. Use

10-10-10 (or equivalent) at 50 lbs. to each 1,000 sq. ft.

An adapted grass is a fundamental consideration. Choose a grass that has proved itself in your area; preferably one you have tried in your nursery under your management. Choose the best possible grass, which usually means one of the improved strains of bent or bermuda.

The proper amount of planting material (or seed) is basic. With the exception of Penncross bent, all the improved strains are planted from stolons. From here on our discussion will relate to principles for planting and establishing stolons.

A minimum of 5 bu. of stolons to 1,000 sq. ft. is required. Use 10 bu. to 1,000 sq. ft. for rapid coverage.

Spread stolons evenly and don't smother them under a heavy topdressing. This is basic procedure. One method of doing this is to scatter the stolons evenly ahead of a rolled steel doormat, unrolling the mat as grass is spread. When the mat is fully unrolled, scatter sandy topdressing over it lightly to cover about half of the grass. This will require about  $\frac{1}{2}$  to  $\frac{3}{4}$  cu. yd. of topdressing to each 1,000 sq. ft. After topdressing is applied, roll the mat and move to the next location.

Firming the seedbed is another basic principle. Roll topdressed stolons with water-ballast roller completely filled.

Do not allow the stolons to dry out. That is a basic principle. Start watering at once, gently, but don't flood. Water lightly and frequently so that grass stays moist. On dry days sprinkling may be needed every hour or two.

Proper mowing is basic. Start mowing at  $\frac{3}{8}$  in. as soon as there is anything to mow. It is a great mistake to let grass get tall and matted before starting to mow. Do not use a grass catcher for the first several mowings.

Little "touch-up" jobs essential for perfection are basic principles when establishing grass on a putting green. Add topdressing to low places lightly and often. Scatter more stolons in thin or bare areas and press into soil and topdress.

Use the vertical mower soon after starting to mow. Use it frequently, but lightly, to nip off top runners and to help plane off the high places for smoother mowing. Attention to these details will help to develop a uniformly smooth and accurate putting surface quickly.

By following these basic principles for planting greens, good new greens will be established. In order to keep greens in excellent condition, it is necessary to follow the basic principles of maintenance. These will be outlined in our May column.

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**Q**—The management at our course has decided we ought to be able to organize our work so no one will have to work on Sundays. It isn't that they object so much to overtime expense but, as they put it, other businesses close on Sunday. We've tried to explain that during the summer most of our troubles occur on Sunday p.m. when play is heaviest and that we need at least a skeleton crew on hand to stop trouble before it happens and thus save turf that otherwise would be lost. How can we succeed in getting this point across? (Ohio)

**A**—Managing turf on a course is one of the most highly specialized businesses known — one in which we must work with nature and be fully prepared to cope with her fickle moods. There is not very much that I or anyone else can add to what you have told your officials. If I were in your place I would put into writing your description of exactly what would happen. "The course is crowded. It is hot — steamy.

There is a sudden brief shower about noon. As soon as it is over everyone takes off again. Heavy foot traffic seals the soil which is excessively wet right at the surface. Soon the grass begins to turn blue just as anyone would when deprived of oxygen. Half an hour later the grass is beyond recovery and an extensive program of resodding or plugging becomes necessary." The simple remedy is to have someone on the job ready to shower the wilting grass lightly and quickly restore lost moisture. This is a principle of plant physiology and has nothing to do with budgets, overtime, Sundays or anything

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### Three Professionals Cultivating Their Crop of New Golfers

This is about half of the class of 158 kid golfers John Bobick, pro at Eberhart Park municipal golf course, Mishawaka, Ind., got after he'd kept at his campaign of giving free lessons to youngsters as one of the city's recreational services. There were enough loan clubs to teach all the kids at one time. The lessons ran weekly for six weeks and almost all the kids took full treatment, kept playing during last summer and have turned up again this spring, asking for renewal of the classes.

Bobick is at the left, and to his right are assistant professionals Ralph Snyder and Jim Shaw.

else except giving the grass what it needs when it needs it.

**Q**—Last year our Tiffine Bermuda greens became very bumpy due to seedhead formation. Is there any way to prevent this? (Ga.)

**A**—Generous fertilization with nitrogen helps to keep grass growing vegetatively, thereby reducing formation of seedheads. If seedheads do form, vertical mowing at frequent intervals (once or even twice a week) will keep them trimmed off and produce a playing surface that is much more satisfactory for golfers.

**Q**—We use a topdressing mixture of about 2 parts peat, one part sand and one part good soil (by volume). Is this a good mixture? (Ill.)

**A**—I think your topdressing could be changed to your advantage. High peat content would tend to keep roots shallow, soil soggy and retain plant foods at the surface. I would suggest a mixture of 60 percent coarse sand, 20 percent good soil and 20 percent peat (measurements by volume).

**Q**—Is Chlordane a good crabgrass control? (Calif.)

**A**—Chlordane is a good insecticide and you get your money's worth using it for that purpose. There are chemicals specifically suited for the control of crabgrass and I'd recommend using one of them where crabgrass is a problem. Sodium arsenite long has been used for this purpose. Potassium cyanate and phenyl mercury acetate are crabgrass controls. The newest and safest chemical, specifically for crabgrass control, is di-sodium methyl arsonate.

**Q**—How can we get rid of a mat under green turf, still keeping the surface in usable condition? (Ind.)

**A**—The mat is an accumulation of undecayed leaves and stems. Hasten the decomposition of this organic material by making conditions favorable for bacterial activity. This can be done through cultivation to mix soil with the organic material and by providing adequate aeration.

There must be moisture present, but not saturated conditions.

Addition of lime will be helpful if soil is acid and adequate nitrogen fertilizer should be used. Material on the surface may be removed by vertical mowing — do this a little at a time. Never try to cut deeply enough to remove thick mat in a single operation.

Do not bury the mat under a layer of topdressing. Be patient and extend your program over a period of time, using mechanical methods to remove the material from the surface. At the same time, provide favorable conditions for decomposition of the material underneath.

**Q**—What is the best way to get rid of clover in Bermudagrass fairways? (Tex.)

**A**—Brushkiller, a mixture of 2,4-D and 2,4,5-T, used according to manufacturer's instructions, gives good control. However, unless good cultural practices are carried out, another crop of weeds will come in. Adequate nitrogen feeding is a "must" to maintain good Bermuda coverage. Proper watering is also important. Don't drown Bermuda. Deep soaking only once every week to 10 days, depend-

ing on the soil, is much better than more frequent, light watering. Experiments have shown that Bermuda can go 100 days or more fertilized adequately.

Less water and more nitrogen often is the key to good Bermuda fairways.

**Q—What causes moss in putting greens? (Pa.)**

A—Excessive moisture most often is the cause. Poor drainage and lack of aeration, or keeping the surface saturated through improper watering, encourage moss. If drainage is extremely poor, it may be necessary to rebuild.

In many cases, even though drainage isn't perfect, it is possible to maintain the green by establishing a vigorous adapted strain of bent, and managing it properly with regular aeration, fertilization and proper use of water.

**Q—As long as the proper amount of water is applied, does it really matter whether greens are watered at night or in the morning? (Ky.)**

A—Using the proper amount of water so that soil will not be kept saturated certainly is important. Nevertheless, the time when the water is applied is important. All other factors being equal, there will be fewer disease problems where watering is in the early morning.

We have mentioned before in *GOLFDOM*, that the benefits of early morning watering were demonstrated nearly 25 years ago by Monteith and Dahl.

**Q—When purchasing stolons which must be shipped from a great distance, isn't there danger that the planting material will be in poor condition on arrival? Also, what guarantee do we have that the material is young nursery stock? (Ariz.)**

A—Shipping stolons is no longer any great problem. Stolons can be shipped from any part of U.S. by air and they will reach their destination in good condition. The age of the nursery stock is not important, as long as you get fresh viable planting material.

**Q—What quantity of planting material would be required for sprig fairways and tees? (Fla.)**

A—For a fairway it should be possible to plant an acre with 25 to 40 sq. yds. of sod, roughly equivalent to the same number of bus. of sprigs when sod has been shredded. Tees will take about twice as much material as fairways in order to get a solid cover more quickly.

**Q—What is the best way to get rid of moles in greens? (N.Y.)**

A—You generally find moles at work where there is a heavy insect population. Get rid of the insects and you should not have any further trouble with the moles. Chlordane is one of the best insecticides to control all turf insects, including earthworms. A granular formulation seems to be the best — easier to handle and less loss. Application to greens should be watered in.

## Michigan PGA Lists Rates For Pro Services

THE Michigan PGA has made a tabulation of rates for pro department services that is proving very helpful in establishing proper prices this year. The compilation covers 82 clubs, (private, semi-private and public.)

The range of prices shows some wide variations.

Club-cleaning per person per month ranges from \$7.50 to \$15; Club-cleaning and storage with cart from \$10 to \$15.

Club-cleaning on man-and-wife arrangements at slight discounts at eight of the 20 clubs reporting. Reduced club-cleaning rate for juniors at three of the reporting clubs.

Half-hour lesson rates range from \$2.50 to \$4. About half the half-hour lesson rates given are \$3. At the majority of clubs there is a charge of 50 or 75 cents for balls used in half hour lessons; charge for balls used for hour lessons is double the half-hour rate.

Seven pros have hourly lesson rate applying to playing lessons. Other charges for playing lessons range from \$5 to \$10 for 9-hole lessons and from \$10 to \$18 for 18-hole lessons, plus the pro's caddie fee.

Electric cart charges range from \$3 to \$4 for nine holes and the 18-hole car rental charge is \$6 at all clubs reporting.

Small bag of range balls varies in number from 25 to 65 with 30 and 50 ball bags being most common. Prices for use of the small bag of balls varies from 40 cents to \$1.10. The large bags have from 50 to 100 balls and rental price ranges from 80 cents to \$1.10.

Nine of the 30 pros reporting on the query about tees said they give away tees; the others charge.

Warren Orlick, Michigan PGA pres., and Lou Powers, sec.-treas., have been providing the Michigan members with considerable information on the organization's operating plans and policies for this year.

A feature of the section's business program is a one day session for assistants, with Emil Beck and Joe Devany, co-chairmen of the Educational committee, in charge. The subjects to be covered include fitting of clubs, cleaning of clubs, human relations, rules, business telephoning, tournament operation, records and accounting, and merchandise display.

Orlick has had a crowded schedule this winter. He's been teaching indoors at the Sidney Hill club from Jan. 15 through March 15, and gave 660 individual lessons.