

TIMELY TURF TOPICS

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ROOM 307, SOUTH BUILDING
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PLAYING CONDITIONS REFLECT SKILL IN TURF MANAGEMENT

STANDARDS OF MAINTENANCE SUGGESTED FOR BEST PLAYING CONDITIONS: Better Turf for Better Golf is the goal of all pest control programs (weeds, diseases, insects, and small animals), but the development of the most desirable types of turf for golf depends also upon skill in management. The characteristics of turf affecting the ball in play are highly important. Close cutting, maximum density, and firmness with resiliency are three terms most applicable to turf of tournament quality on all but the roughs. These guides to maintenance are suggested:

Turf on Tees should be firm to give confidence in the stance and be resilient to permit ready insertion of the peg tee. Turf should be cut sufficiently close to allow the ball to stand clear of uncut grass (1/2 to 3/4-inch). Large flattened tees permit cutting with power units (fairway mowers) and frequent rotation of markers. Creeping or spreading grasses largely are self-healing. Generous fertilization, improved soil texture, and minimum irrigation consistent with good turf are guides to better turf on teeing grounds.

Turf on Fairways should be firm to provide a "short roll" for the ball, resilient to facilitate walking, and of maximum density to hold the ball up so that it does not sink down into the grass. Long blades of grass which partially hide the ball destroy the player's confidence and tend to affect the shot. Thin, open turf requires closer cutting than dense, firm turf, to produce the desired lie, which is provided by choice of adapted species, generous balanced feeding, minimum irrigation, and mechanical treatments to promote deep penetration of moisture, nutrients and roots, and to avoid "fluffiness," "sponginess," and "matting." Top-flight golfers have stated their preference for the playing qualities exemplified by well-kept (1) Bermuda turf, (2) fescue turf, and (3) bentgrass turf. The worst enemy of good shots on the fairway is deep, soft, lush, over-watered turf. A small divot usually indicates better playing conditions than a large divot.

Putting surfaces should be firm to avoid footprinting and should be resilient so that a properly-played shot will hold, but should be sufficiently solid so that a poorly-played shot will roll over. The surface should be smooth and true as a billiard table. Density of the turf should be so great that individual grass blades are crowded to a true vertical position. "Graininess," "sponge" or "mat" destroy accuracy and the Fun in golf. Governing factors include: choice of grass, soil texture, drainage and aeration, fertility level, and watering practices.

Grass in Roughs usually have, as Topsy, "just growed." Class of players may dictate policy, but standards suggested by leading golf professionals include: (1) open turf where ball may be found readily (weeds eliminated) to speed play and reduce irritations; (2) minimum penalty of one-half stroke (more if desired for tournaments and special occasions). Mowing practices and choice of grasses largely govern results.

These suggested standards admittedly are general. Subsequent discussions and results of research, planned and in progress, will render them more specific. The golfing superintendent or greenkeeper quickly can detect imperfections in golf turf as they affect the grass.

THE ELIMINATION OF RYEGRASS AND
THE CARE OF BERMUDA GRASS ON GREENS IN THE SOUTH

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The turf on greens in the deep South is Bermuda grass for summer play and ryegrass for the winter season. The transition periods from ryegrass to Bermuda grass in the spring and from Bermuda grass to ryegrass in the fall are bad ones. Some clubs have difficulty ridding greens of ryegrass, and others have a hard time obtaining a stand of it in the fall.

Ryegrass disappears gradually when left to itself. It dies in patches so that greens are poor for putting for a month or two. The use of ryegrass retards recovery of the Bermuda grass. Ryegrass can be made to disappear in seven to ten days, and the recovery of the Bermuda grass can be hastened.

The secret of ridding greens of ryegrass is to apply nitrogen fertilizer generously and water copiously to make the ryegrass succulent. Then by stopping watering the ryegrass will die quickly. This should be done about the time the Bermuda grass starts growth in the spring.

Ammonium sulfate or ammonium nitrate should be applied at 10 pounds to 1,000 square feet. The green should be watered generously every day for a week, or until the ryegrass becomes tender. Then stop watering for about a week, or until the ryegrass turns brown and dies.

Ryegrass is a heavy feeder and draws heavily on the soil supply of nitrogen. A deficiency of nitrogen is one reason but not the only one for slow growth of Bermuda grass in the spring. An application of cottonseed meal, soybean meal, or Milorganite applied at 40 to 50 pounds to 1,000 square feet, in addition to the ammonium sulfate, or ammonium nitrate, will hasten recovery of the Bermuda grass.

A light seeding with hulled Bermuda grass seed (Atlanta strain) is desirable right after the ryegrass disappears. From one to five pounds of seed to the green are ample. Bermuda grass from seed is finer textured than is native Bermuda grass and stays that way for a season or two. The use of a little seed thickens the turf and improves the texture.

An application of 0-14-14 at 10 to 15 pounds to 1,000 square feet is advisable before greens are seeded with Bermuda grass seed. The phosphate will stimulate root formation and growth of the seedling grass. It will provide plenty of phosphoric acid and potash for the season's growth of Bermuda grass.

Bermuda greens are bad for play when the turf is coarse and stubbly. The character of the turf can be improved by fertilization and topdressing. The Bermuda grass should stay vegetative and leafy all season and should be topdressed regularly to keep the stems buried.

Nitrogen is the element responsible for leafiness and vegetativeness. Phosphoric acid and potash have the opposite effect and should be used sparingly at rates which furnish minimum requirements. The amount of nitrogen needed to 1,000 square feet each month is from 2 to 3 pounds of actual nitrogen, or from 10 to 15 pounds of ammonium sulfate, or from 7 to 10 pounds of ammonium nitrate, or from 35 to 50 pounds of cottonseed meal, soybean meal, or Milorganite. The ammonium sulfate or ammonium nitrate should be split into two or three equal amounts and applied two or three times during the month. The organics can be applied in a single application once a month. The spring application of 0-14-14 recommended above will furnish ample phosphoric acid and potash.

The topdressing used on Bermuda greens should be applied at approximately one yard to an average green of 5,000 square feet. Greens should be topdressed every four to six weeks, or whenever the turf shows signs of steminess. The topdressing should be a medium to coarse sandy loam containing 20 to 30 percent of organic matter. The organic matter increases the water-holding capacity of the soil and gives a slight resilience so that the green will hold a pitched ball without the necessity of over-watering.

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MINOR ELEMENTS STIMULATE GRASSES IN FLORIDA
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The use of copper, manganese, zinc and iron in the fertilizer gives promise of completely upsetting our ideas as to which species and strains of grass are adapted to Florida conditions, and which are not.

Experiments with pasture grasses at the Everglades Experiment Station first focused our attention on this situation. Certain strains of St. Augustine, Bermuda and *Digitaria* grasses simply failed to become established unless copper sulfate (bluestone) was added to the soil. Moreover, one coarse strain of Bermuda grass grew vigorously without copper, but a better type, coastal Bermuda, "drove out" the undesirable strain if 15 to 25 pounds of copper sulfate were used to the acre. Without copper, the coastal strain quickly went to pieces no matter how much ordinary fertilizer had been used. We have since decided that many turf grasses have failed in Florida, not because they did not "like" the climate, but because they require more copper than our "adapted" grasses.

Manganese, zinc, and iron, which, like copper, are needed by all plants in very small amounts, often are locked up in the "sweet" sand along our Lower East Coast so that they are not available to the grass plants. Startling recovery has been observed on greens and fairways sprayed with no more than four pounds of manganese sulfate to the acre. When turf lacks iron or zinc, a spray containing one pound of copperas (ferrous iron sulfate) or one pound of zinc sulfate to the acre will sometimes rejuvenate the grass in ten days' time.

When grass is in an unthrifty condition due to deficiencies of any of these so-called minor elements, fungi or insect pests may move in and administer the knock-out blow. At one private club where an excellent fertilizer program has been followed for years, scale was killing the Bermuda grass of one entire fairway. Two pounds of manganese sulfate spray to the acre resulted in complete recovery from scale injury in two weeks after application. The grass simply grew fast enough to keep ahead of the scale.

Many grasses which most people believe are not adapted to the southern climate have been growing vigorously for the last 15 months in this sub-tropical area. Among these strains are 50 bluegrasses and a dozen bents. We suspect that, for soils of proper structure and fertility, the addition of copper, manganese, zinc, and iron will allow these grasses to thrive anywhere in Florida.

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TOPDRESSING VS. NO TOPDRESSING: In the light of recent discussions on the problem of Topdressing vs. No Topdressing, we would like to have you fill out the questionnaire below and mail it directly to USGA Green Section, Beltsville, Md. The results of this survey will be published in a later issue of **TIMELY TURF TOPICS**.

1. Is it your practice to apply topdressing? Yes _____; No _____.
2. If you do topdress
 - A. What is your normal rate of application? _____
 - B. How many times a year do you topdress? _____
 - C. What proportion by volume of each of the following ingredients do you use in your topdressing? Soil _____; Sand _____; Organic matter _____.
 - D. Type of organic matter: Peat ____; Mushroom soil ____; Manure ____; Other ____.

Name and address of your Club.

Signature and Title.