

UNITED STATES GOLF ASSOCIATION  
GREEN SECTION

SOUTHEASTERN OFFICE  
Georgia Coastal Plain Experiment Station  
TIFTON, GEORGIA



B. P. ROBINSON  
Southeastern Director

SOUTHEASTERN TURFLETTER

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YOUR SOUTHEASTERN TURFLETTER

The Southeastern Turfletter is a part of the new Regional Turf Service being offered to USGA member clubs through regional offices of the USGA Green Section. The regional office recently located at the Georgia Coastal Plain Experiment Station, Tifton, Georgia, is the fourth regional office to be established, and its Turfletter has been prepared for subscribers to the Regional Turf Service in Alabama, Georgia, Florida, Louisiana, Mississippi, North Carolina, South Carolina and Tennessee. Approximately six issues of the Turfletter will be published each year. Clubs subscribing to the Regional Service will receive two copies, addressed to individuals designated by the Club.

The Turfletter is your publication. It is designed to help you in your turf production problems. Any suggestions which you may have for its improvement will be gratefully received.

REGIONAL TURF SERVICE

Since the Regional Turf Service was introduced this spring at a series of meetings for green committee chairmen and golf course superintendents in the Southeast, forty-five clubs have subscribed. In brief, the heart of the service is to strengthen the superintendent's and the green committee chairman's hands--to insure that both new developments in research and practical findings are promptly available. An agronomist (the Regional Director) trained in turf research and production is their agent for doing this. The services to each subscriber of the Regional Turf Service are as follows:

1. Three direct conferences with the Regional Director each year on the following schedule:
  - (a) One-half day visit to the course by the agronomist, followed by a written confidential report from him to the course superintendent and the green committee chairman.
  - (b) Two group conferences in which the agronomist will meet with the golf course superintendents and green committee chairmen of a geographical group of clubs.



2. Assistance by correspondence and telephone.
3. Two subscriptions to the Southeastern Turfletter, published six times a year.
4. One subscription to the USGA Journal and Turf Management, published seven times a year.
5. A voice in the direction of research dealing with golf course turf problems. Part of the funds obtained from the turf service will be used for turf research within the region. There will also be other funds available for research which are allocated annually by the USGA for studying turf problems. The Green Section representatives of the USGA and the Regional Directors have a voice in the allocation of these funds. Since the USGA Green Section Committee includes superintendents, club officials, and agronomists of State Experiment Stations, it is evident that the funds will be wisely spent and golf courses will have opportunity to suggest types of research to be included in the program.

#### THE REGIONAL SERVICE AND TIFTON PROGRAM

Many individuals have been concerned about the relationship of the Regional Turf Service to the research programs at Tifton and elsewhere in the Southeast. Provisions have been made to continue the turf research work at Tifton. After receiving his master's degree in agronomy at Texas A & M College, Jim Latham joined the Experiment Station staff June 1, 1954, to work with Dr. Glenn Burton and B. P. Robinson, USGA Regional Director, on the experimental plots.

Establishment of a regional office at Tifton is a natural development of the cooperative turf work which has been conducted since 1946 by the Georgia Coastal Plain Experiment Station and the U. S. Department of Agriculture, with financial support from the Southern Golf Association and the USGA. The turf service actually supplements other programs now in existence.

With the Regional Turf Service in full swing, more funds than ever before should be available within a region for turf research related to golf courses.

#### SOIL TESTING AVAILABLE TO SUBSCRIBERS OF THE REGIONAL TURF SERVICE

Clubs subscribing to the Regional Turf Service may have their soil analyzed at the Georgia Coastal Plain Experiment Station. The laboratory is supported by tax funds from the State of Georgia. The Station, therefore, does not have authority to test out-of-state soils without a small charge to offset its expenses; this fee is fifty cents per sample. Clubs within the State of Georgia do not pay a fee for the service. Other States within the Southeast have laboratories for testing soils. Various methods are used and recommendations vary according to the type of test run. The Southeastern Office would be in a better position to make recommendations to golf clubs if the samples were tested at one laboratory. The Regional Director is accustomed to making recommendations based upon tests from the Tifton laboratory.



### Purpose of Soil Testing.

The question often arises, "How much and what kind of lime or fertilizer should we use?" It is difficult to follow standard recommendations due to wide variation in soils and previous fertilization. Soil testing helps to remove some of the guesswork in fertilizing turf. Plants require some fifteen chemical elements for growth. Of these, nitrogen, phosphorus, potassium, calcium and magnesium are most likely to be deficient in Southeastern soils. Soils vary widely in their fertility and in their fertilizer requirements. Knowing which element or elements are lacking will enable the superintendent to get the most out of his fertilizer dollar. Soil tests can help determine the kind and amount of elements a particular soil needs.

### Soil Sampling.

The proper sample is the most important step in any analysis. If one realizes that results obtained from testing a small amount of soil may be used for making recommendations on several fairways or greens, the need for a good sample becomes evident. Every sample should be a thorough mixture of soil taken from at least ten different locations within an area from which a soil analysis is desired. This is a composite sample. Specific instructions for sampling and mailing to the laboratory are as follows:

1. Take a thin vertical slice of soil to a depth of 2" to 3" from at least ten different places within the area. Combine all ten portions, mix thoroughly without touching with the hands, and save about  $\frac{1}{2}$  pint of the mixture.
2. Samples may be taken from representative fairways, greens, or tees. For instance, a club may wish to sample its first nine and second nine greens separately and make a composite sample of each nine greens. In some cases it might be desirable to keep samples separate for areas which have distinctive soil types or drainage conditions, i.e., low and high areas. From 5 to 10 samples should be sufficient for each club.
3. A trowel, spade, auger, or broken golf shaft may be used in sampling.
4. Samples should be taken and sent to the laboratory between April 1 and September 1. Do not send samples at other periods of the year. It would be best to have results of soil analysis before the Regional Director's annual visit to the club. Do not sample immediately after fertilization.
5. Place the soil in a paper carton ( $\frac{1}{2}$  pint ice cream cartons, etc.) or other suitable containers that will not crush or break, number, label and wrap samples in cardboard boxes for mailing. Include check or money order to cover expense of testing -- 50¢ per sample. Address as follows:

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6. Keep a personal record of where the samples were taken, results of the laboratory, and suggestions of the agronomist. This record over a period of years should give an indication of the amount of fertilizer



which should be applied in order to keep soils in a good state of fertility.

#### WHAT ARE SOIL TESTS?

Soil tests measure the amount of available plant nutrients in the soil. Available plant nutrients are nutrients which turf grasses can obtain for immediate growth. There are, however, nutrients held in soils which plants cannot utilize for growth. Tests are made on each soil for pH (acidity), available pounds per acre of nitrate nitrogen, phosphorus, potassium, calcium and magnesium. These are the elements most likely needed in Southeastern soils.

#### The pH Test.

Measurements of soil reaction (whether acid or basic) is made with a pH meter. It is an accurate measurement, and when the soil type and turf grass are known liming recommendations can be made based on pH. Soils high in clay and organic matter require more lime to raise to a given pH level than light sandy soils.

#### Available Plant Nutrients.

**NITRATE NITROGEN.** Nitrates may vary in soils from day to day, as they readily subject to leaching and plant use. Chemical soil tests indicate the general level of nitrates and may be of some help in indicating the need for nitrogen.

**PHOSPHATE.** Some heavily fertilized putting greens are building up a reserve of phosphorus. An excess of phosphorus may be detrimental to plant growth. Most soils, however, are low in phosphorus except those that have been fertilized with phosphorus fertilizers for several years. A soil test will indicate the phosphorus level.

**POTASH.** The amount of potash in Southeastern soils varies considerably. A soil test is very helpful in indicating potash needs of a soil.

**CALCIUM.** Soil pH, in most cases, indicates the level of available calcium in soils. A low pH coupled with low available calcium indicates need for high liming rate. Some soils such as those with high organic matter and clay may have low pH with fairly high available calcium. This indicates lime is still needed for some grasses. Such soils have a high capacity to hold and exchange nutrients. High pH and high available calcium indicate no lime is needed.

**MAGNESIUM.** In general, soils that are high in calcium contain ample magnesium. Putting greens may, however, have a good supply of calcium and still be low in magnesium content. Magnesium deficiencies may be corrected by the use of soluble magnesium salts in fertilizers or by applying finely ground limestone containing magnesium (dolomitic limestone). A soil test will indicate if this element is needed.

# *Southeastern Turfletter*

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