TIMELY TURF TOPICS

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UNITED STATES GOLF ASSOCIATION GREEN SECTION

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BETTER TURF THROUGH COOPERATIVE EFFORT

LOVEGRASSES FOR ROUGHS IN THE SOUTHWEST: Weeping, Boer, and Lehmann lovegrasses show definite promise for use in the roughs in the southwest areas of the United States. The sod formed by these grasses, when mowed at a height of three to four inches, provides an excellent open lie where the ball can be found easily. However, a stiff penalty is exacted when the ball rests in a sod of this nature.

All three grasses are drought-resistant. Weeping lovegrass can not be expected to become established where the annual rainfall is less than 15 inches, while Boer and Lehmann lovegrasses can be established with as little as 10 to 12 inches.

Weeping lovegrass is the most cold-resistant and has been grown successfully in areas with temperatures as low as -20°. Boer lovegrass is considerably less cold-resistant than Weeping lovegrass. Of the three grasses, Lehmann lovegrass is the least winter-hardy.

Wide scale experiments have proved that these grasses will grow on soils varying in texture from coarse sand to heavy silts and clays, differing in pH reaction from strongly alkaline to highly acid, and ranging in fertility level from very poor to fertile.

Seeding may be accomplished in the warmer sections at almost any time in the spring and summer when moisture conditions are favorable. In the colder short-season areas, early planting (middle of February in the extreme South to as late as June in the northern limit of their adaptation range) is advisable to obtain sufficient root and top development to prevent injury during the first winter. In the Southwest, where rainfall is the limiting factor, it has been found best, unless irrigation is practicable, to defer seeding until the beginning of the mid-summer rainy season.

The seeding rate must be governed by the germinable quality of the seed, which may vary greatly in the different seed sources. The species of lovegrass which is sown is also another factor. Seeds of these three lovegrasses vary in size and number per pound. Weeping lovegrass has approximately 1½ million seed per pound, Boer about 3 million, and Lehmann about 7 million. High rates of seeding produce severe competition among the seedlings, thus retarding the growth of plants, diminishing the color, and increasing the harshness of the leaves. Based upon the use of clean, viable seed and favorable planting conditions, a seeding rate of 3 to 4 pounds per acre should give satisfactory results.

These grasses require deeper planting on light than on heavy soils, and greater depth in dry, windy than in humid climates, or where irrigation is practiced. Normally the following planting depths can be followed: Weeping lovegrass, 1/2 to 3/4-inch; Boer lovegrass, 1/4 to 1/2-inch; and Lehmann lovegrass, surface to 1/4-inch.

If soil moisture and temperature are favorable, the seedlings will come up within 3 to 4 days and reach a full stand about 6 to 8 days after planting.

Applications of a complete fertilizer have been found to be very beneficial in the establishment of a good ground cover.

Disease and insect attacks on these grasses are remote. The only known disease is a minor smut.

WHAT IS THE VALUE OF LIME?

Thomas C. Longnecker*

In the humid sections of the United States lime is quite often a limiting factor in the production of high quality turf. Many of the chemical, physical, and biological processes in the soil are dependent upon the presence of lime. In addition, the calcium and magnesium found in lime are essential mineral nutrients which turf grasses must have to carry on growth functions. Attempting to produce turf on strongly acid soils can be likened to the operation of a six-cylinder gasoline engine if one spark plug is missing. The motor operates but is inefficient and expensive, loses most of its power, and finally chokes to a halt when any additional load is added.

One of the greatest values of lime and one which can be observed easily is the lessening or prevention of drought injury. This does not mean that lime is a substitute for water in grass growth, but liming an acid soil does permit more efficient and complete utilization of rainfall. Water penetrates very slowly in strongly acid soils, due to the fine grained soil present under such conditions, and as a result a large portion or sometimes all, of the natural rainfall or applied water will run off rather than penetrate. Drought injury has been observed on strongly acid fairway turf where irrigation was a regular procedure.

Applications of lime on strongly acid soils flocculates the fine soil particles, thus promoting deeper root penetration. This aids also in preventing drought injury, since the grass roots then have a much larger volume of soil from which to obtain moisture.

Even though the value of lime in preventing drought injury is sufficient to justify its use on strongly acid soils, many other beneficial results are obtained. Equally valuable but usually less apparent are the soil chemical changes which follow lime applications. In strongly acid soils aluminum, iron, and manganese exist in soluble form. Soluble aluminum is toxic to grass growth and even though small amounts of iron and manganese are required by grass plants, larger quantities of these elements in soluble form are also toxic. Lime causes these elements to change to an insoluble, non-toxic form.

Soluble iron and aluminum also react with applied phosphate fertilizers to form insoluble iron and aluminum phosphates in which the phosphates are unavailable to plants. By decreasing the amounts of these toxic elements lime also permits more efficient and economical use of phosphate fertilizers.

Lime is valuable also for its effect upon the activity of soil micro-organisms. Four of the most important biological processes carried on by soil micro-organisms are: (1) decomposition, (2) ammonification, (3) nitrification, and (4) nitrogen fixation. Without exception all of these biological processes are encouraged by liming.

In strongly acid soils grass roots are not decomposed and accumulate to cause a sod-bound condition. Applied organic fertilizers break down and release nutrients very slowly. Ammonia nitrogen, either from the breakdown of organic materials or from ammonia salts, is not converted to nitrate, the form in which grass plants assimilate and use nitrogen. Nitrogen fixation, both by free living bacteria and also those which fix nitrogen in nodules on the roots of legumes, is also at a standstill.

Because of its many and varied beneficial effects upon soils and grass growth, it may not be possible to place a dollar-and-cents value on lime in turf production, but over a period of years the proper use of lime combined with other desirable maintenance procedures will pay real dividends in producing turf of superior quality.

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NAME FOR C-7: The name Cohansey has been assigned to the strain of bent which is character designation C-7. This grass was selected at the Pine Valley Golf Club, Pine Valley, New Jersey, in 1935. This strain of bent is fine bladed, has a yellowish cast that produces a very fine texture putting green, and is a rapid spreader, healing itself quickly after injuries. It has been found to be quite suitable for putting greens in the southern part of the bent region. It is susceptible to injury from dollarspot. It is well liked in Richmond, Virginia, and in St. Louis, Missouri.

The name Cohansey is assigned to C-7 bent for the reason that Cohansey is the name of the water stratum that feeds all the springs and lakes at Pine Valley. Without this stratum of water there would be no Pine Valley. New wells, recently drilled, are drilled into this stratum which produce excellent drinking water. To the Cohansey stratum of water then, Pine Valley owes its beautiful fairways, its immaculate putting greens, and its well-kept tees. Without an abundant supply of water it would be impossible to produce such excellent golfing conditions on the pure sand on which Pine Valley is built.

The name Cohansey was selected by Pine Valley's own people after a contest to decide which name would suit the grass the best.

For the benefit of all, the following is a list of named Green Section bentgrass selections:

C-1	Arlington	C-7	Cohancey	C-15	Toronto
C-19	Congressional	C-27	Collins	C-36	Norbeck

Since these names have been adopted and accepted, it is our desire that in the future the "C" designation be discarded and instead the names mentioned above be used.

TURF CONFERENCES: Plans have been completed for the Southeastern Turf Management Conference to be held at the Georgia Coastal Plain Experiment Station on May 21 and 22. This will be the first conference of its type to be held in this area. Its success depends entirely upon the support given by the Superintendents and Green Committee Chairmen. In addition to the formal program, which will include talks by nationally known turf authorities, half a day will be devoted to a tour of the turf experiments under way at Tifton.

Those interested in attending should contact Dr. G. W. Burton, Georgia Coastal Plain Experiment Station, Tifton, Georgia.

Plans also have been completed for the Florida Greenkeepers' Meeting to be held at the Roney Plaza Hotel, Miami Beach, Florida, on May 25, 26 and 27. Those interested should contact either Mr. O. S. Baker, P. O. Box 4043, Miami Beach 41, Florida (Normandy Branch Post Office), or Dr. Roy A. Bair, Everglades Experiment Station, Belle Glade, Florida.

"TURF WEED CONTROL WITH 2,4-D": This title describes a new, comprehensive publication written by Dr. Fanny-Fern Davis, formerly Acting Director of the Green Section, now Consultant in the Horticulture Division, National Capital Parks, U. S. Department of the Interior, Washington 25, D. C. Technical workers, professional turf superintendents, and green committee chairmen will find information of value in this booklet.

NEW PHONE NUMBER: The USGA Green Section office at Beltsville, Maryland, now can be reached by calling TOwer 6400, Extension 78.

QUESTION AND ANSWER

Q. Cutworms are inhabiting the holes on our putting greens where we have aerated with tubular tine forks and are seriously damaging the turf. How can we control them?

A. DDT applied at the rate of 2½ pounds of 10% DDT dust, mixed with sand to 1,000 square feet, should give excellent control. If this is sprayed on, use a 50% DDT wettable powder and apply it at the rate of ½-pound to 1,000 square feet. These rates are on the basis of 10 pounds of actual DDT to the acre.