

Turf Questions ...and answers

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Improving Unwatered Turf

Natural rainfall is the sole source of water for a major portion of the turf in North America. More and more irrigation systems are being installed, some in areas where there is a persistent nagging question: "Is there going to be enough water?" When water runs short, the limited available supplies go first to domestic uses, to industry and to agriculture. Turf is the first to be cut off. Nothing is more useless than an expensive irrigation system and no water. Shortages usually occur in mid-summer when turf needs are greatest. Turf that has been developed with copious quantities of water will suffer the most when water is denied it.

Shortages of water for turf are not in the future — they are here — now! Explosions of population, increased industrial development, more water for agriculture and hundreds of new golf courses will continue to put a strain on the supplies of fresh water. Without trying to introduce "scare tactics", it is logical for every turf manager to learn how to grow the best possible grass with the least amount of water. Those with unwatered turf must learn to produce high quality grass with natural rainfall only.

Reserve of Plant Food

Continuously adequate supplies of nutrients in the soil represent the first and foremost step in producing high quality turf. It is a foregone conclusion that moisture will be the limiting factor in grass growth with natural rainfall being as variable and fickle as it is. It is essential to have a reserve supply of plant food in the soil ready to be converted to the needs

of the plants as moisture is made available. If the plant food can be delivered to the grass steadily and uniformly as the grass needs it, then maximum turf density can be accomplished within the limits of the moisture that is available.

In the natural grasslands of the world, nature provided a tremendous storehouse of slowly-available nutrients in the deep humus-rich soil of the prairies. Now, with the rich soils largely dissipated, we must provide synthetically another storehouse of nutrients that essentially will duplicate nature's methods. We are fortunate that science has provided materials and tools whereby we can closely emulate nature.

Controlled Release Rate

We need to provide the soil a reserve of nutrients that will resist leaching, that is insoluble and that will release nutrients to the plants at a controlled rate equivalent to the needs of the plants. The thing to avoid is a supply of quickly available materials that rapidly release nutrients in such quantity and at such a rate as to damage the turf.

In growing high quality turf with natural rainfall only, it behooves us to use grasses which are best able to tolerate periods of drought and also are best able to utilize the nutrient reserves in the soil when moisture is made available thru rainfall. Within their regions of adaptation these grasses stand high on the list: Bermuda, zoysia, tall fescue, bluegrass, red fescue, buffalograss, gramagrass and crested wheatgrass. Improved strains deserve first attention for their ability to

produce better turf than their common counterparts. A grass that has been severely damaged by leafspot in the spring can't take advantage of stored fertility as well as one that is highly resistant to the disease. Merion blue, for example, repeatedly has been shown to produce denser turf that stays greener longer into drought periods than common Kentucky blue.

Recharged by Rainfall

The grasses cited have the ability to grow well when moisture and plant food are available, then to become dormant by degrees when moisture is denied. They lose green color as drought stresses become greater, but well-fed turf retains a desirable playing cushion. Roots and rhizomes become charged with food reserves. When rainfall recharges the soil with moisture, the turf literally bursts forth in new verdance and again develops dense, cushiony grass. Reserves of nutrients in the soil are there, ready to feed the grass as soon as moisture is present to permit movement of materials into the roots.

Cultivation of soils beneath unwatered turf must be done to permit the maximum rainfall to enter the soil. Runoff wastes valuable water. Many tools are available to cultivate turf soils. Some can be used only when soils are wet so that soil moisture lubricates the parts that enter the soil. Others are built so that they can operate when soils are quite dry. Reserves of nutrients can best be incorporated into turf soils when they, the latter, are cultivated. Then materials have the best chance of being carried deeply into the soil where bacterial action enhances their value.

Out of Season

Q. At our course we have a rather large membership and the traffic on our small greens is terrific. After reading your fine articles, I thought perhaps you could help me with my problem.

During the winter we have several members who are persistent in removing the snow from the practice green and wearing a path from one cup to the next. Cups cannot be changed due to the frozen condition of the soil. When I try to explain the damage this does they want many technical reasons as to why it should not be putted on. It would be of great help to the green committee and myself if you could give us these reasons.

You advised us two years ago to plant Penncross seed on three of our greens. At

the time we were reluctant to accept seed over stolons. At the end of two seasons the greens are in excellent condition.

(West Virginia)

A. When, in the judgment of the green chairman and the superintendent, it is necessary to close the course or any portion of it, all members should accept the ruling. Action of this kind is taken reluctantly by the committee, knowing that some members will be disappointed. But it is far better to incur the displeasure of a few selfish players than to jeopardize the pleasure of the rest of the membership.

Frozen grass cannot repair itself. Worn paths made during winter most likely will need to be resodded when growing weather comes. It is wholly unfair to incur extra maintenance expense because of damage caused by a few out-of-season players.

Sudden thaws can leave the surface soft and mushy while the soil beneath is still frozen and firm. Traffic at this time causes sod to slip, buckle and shift, severing roots. The grass then dies. In addition, footprinting creates such bumpy conditions that pleasurable putting is impossible. Many topdressings will be needed to bring the putting surface back.

If the play of the diehards continues, these players should be persuaded to finance the building of a green on which they can play without restriction. All repairs and maintenance costs would be added to their club bill each month.

Your report on the excellent condition of the three greens seeded to Penncross bent is very gratifying.

Resodding with Zoysia

Q. We want to grow some zoysia sod from seed to resod some tees that we can't keep grass on. We've heard that it can take heavy traffic.

What kind of seed should we get, where can we get it, and what is the best way to plant it? Any other information will be welcome.

(North Carolina)

A. Zoysia sod, grown in a nursery and sodded on the teeing ground, will resist a tremendous amount of club, foot and machine traffic when given adequate feeding and sensible management. Good soil is preferable but not essential. Good drainage is necessary.

All seed in this country comes from the Orient and is known as Japanese lawngrass, or common zoysia.

See your local seed merchant. If he does not carry the seed he can get it from the importer. So far as we know the only firm that imports zoysia seed is Herbst Bros., Inc., 678 Broadway, New York 12, N.Y.

Unless otherwise noted, your zoysia seed will reach you with the hulls on. This seed must be pre-germinated for best results. Mix

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it with ten times its volume of expanded mica or screened, rotten sawdust. Moisten with water and mix well. Do not make the mixture sloppy wet. Keep in a warm room and turn the mixture morning and evening for 10 days to 2 weeks or until you can see the first tiny white sprout emerging from the seed coats.

During this time you will have prepared the seedbed ready for the seed. Adjust pH to 6.5 to 7.0 with ground limestone. Incorporate also a complete fertilizer that carries 50 to 75 per cent insoluble nitrogen sources in a ratio of 2-1-1 or 3-1-1 to supply 4 to 6 lbs. of actual nitrogen to 1,000 sq. ft. Roll finished seedbed slightly, then broadcast the pre-germinated seed mixture so that each 1,000 sq. ft. receives $\frac{1}{2}$ to 1 lb. of seed. The seed must remain on the surface of the soil. Now cover the area with clean straw at one ton to the acre (one bail to 1,000 sq. ft.,) securing the straw against wind by tree branches, a few twines criss-crossed, a spray of water, or an asphalt emulsion to "tack" it together. Irrigate frequently to keep seeds constantly moist until well established.

If the planting is done at the start of hot weather, you may expect zoysia sod at the end of the first growing season. Seed that has not been treated may take two years or more to develop turf. After the seedlings are well established they may be "pushed" with nitrogen and irrigation.

Sod can be transferred to the teeing grounds when it is solid enough to hold together when cut and rolled. By cutting the sod thin and leaving an inch-wide strip between sod cuts, you will be able to lift sod from the same nursery each year.

Metropolitan Amateur Officers

Delton Dollar of the Biltmore CC, Coral Gables, Fla., is the new pres. of the Metropolitan Amateur GA. Joseph Brooke of La Gorce is vp, Paul Hexter, Bayshore CC, is sec., and Stanley Price, Kings Bay CC, treas. Frank Strafacci is executive director of the organization. In 1961, MACA sponsored 19 tournaments in which more than 2,300 persons participated. This year the association is undertaking the sponsorship of a caddie scholarship at the University of Miami in addition to running its regular tournament schedule.

Central Virginia Officers

Harry N. Allanson, supt., Lakeside CC, Richmond, is pres. of the Central Virginia Turfgrass Assn. George F. Wingo, Meadowbrook CC, Richmond, is vp and Harry J. McSloy CC of Virginia, sec.