

Disaster Averted Where Club Guarded Against It

By O. J. NOER

(Second of two articles)



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POOR weather in parts of the North, Southwest, and Pacific Northwest emphasized again the things that have been stressed frequently in the past. Good drainage, including quick surface runoff, fast downward movement of excess internal soil water and satisfactory air drainage are of prime importance for greens. Soil ranks next and is followed by the kind and strain of grass.

Where these things had been provided the supt. had a chance to avoid disaster during hot weather, especially in the places where it was associated with overwetness from heavy rains.

Loss of turf during the past summer should have answered scoffers who question the wisdom of spending the extra money needed to create ideal conditions for turf growth.

Do It During Construction

The time to provide good drainage, the proper kind of soil and grass is during construction of a course. Unfortunately, this happens too seldom.

Reconstruction of all 18 greens is seldom feasible and is sure to meet opposition from the membership. Some clubs will authorize rebuilding of the really bad greens, or they may authorize a reconstruction program extending over several years. Resodding from a nursery disturbs play least and is feasible, provided sod is cut with a modern power sod cutter. In some instances existing sod can be lifted with a power sod cutter and relaid on the reconstructed green. There is no point in using existing turf when it contains a considerable amount of poa annua.

Resodding of a green should be a painstaking task. The sod should be thinly cut to a uniform thickness to speed knitting with the soil. The surface on which the

sod is laid should be firm and absolutely true. It takes too long to correct an imperfect, uneven surface by topdressing after sod has been laid. Good procedure is to firm the top soil layer with a roller of moderate weight. Then correct imperfect spots by the addition of more soil or by pushing soil from high places into low ones. Just before laying the sod, superphosphate should be broadcast over the surface at 15 to 25 lbs. per 1,000 sq. ft. and should be raked lightly to mix with the soil. Phosphate will encourage root formation and hasten knitting of sod.

The soil in the thin sod strips should be identical with the topsoil on the green. This can be accomplished in either of two ways. Existing soil on the nursery site can be modified before seeding or planting stolons with sand and humus. The other way is to seed or plant in the existing soil and then build an appropriate soil layer of $\frac{1}{2}$ to $\frac{3}{4}$ in. by topdressing.

Sterilizing Before Seeding

Pre-seeding sterilization of the soil is common practice. This is done with Cyanamid, Vapam or Methyl Bromide. There must be a delay of several weeks with Cyanamid, and of a week or two with Vapam. Seeding or planting can proceed immediately after using Methyl Bromide. The necessity of confining the gas for a 24-hour period with a tarp or polyethylene plastic tent is the only objection to Methyl Bromide.

At Maple Lane in Detroit sodium arsenite at a total of 6 lbs. per 1,000 sq. ft. is used by Clarence Wolfram to sterilize nursery areas before planting Toronto bent grass stolons (C-15). His nursery turf is singularly free of poa annua despite its prevalence everywhere else. Briefly, the method used at Maple Lane is to prepare



Leonard Strong (accepting gift), for 18 years supt. of Saucon Valley CC, Bethlehem, Pa. and onetime director, vp and pres. (1953) of the GCSA, retired at the end of 1958. He is being succeeded by David Miller, his asst. for nine years. At a retirement party, Strong was feted by club officials, his friends in the Philadelphia and Mid-Atlantic GCSA including those shown above (l to r): Joe Valentine, Burt Musser, Paul Weiss, V. J. Payetti, Charles K. Hallowell and F. L. Gustin. Strong will remain in the golf field as a turf consultant.

Warren Bidwell photo

the seed bed first. Sodium arsenite is applied twelve times at $\frac{1}{2}$ lb. per 1,000 sq. ft. each time by spraying. It is mixed with the soil after each spraying to a depth of 4 to 5 inches with a spring tooth harrow. Then stolons are planted immediately.

This method was used lengthwise on one-half of a test area at Brynwood in Milwaukee in Sept. Immediately afterwards Old Orchard bent stolons were planted across one-third of the strip. Penncross seed was used at 1 lb. per 1,000 sq. ft. across the center strip and Merion blue was seeded across the other third at 2 lbs. per 1,000 sq. ft. Growth started promptly by all three, but was retarded slightly by the heavy rate of sodium arsenite. There were no weeds, poa annua, or worm casts on the sodium arsenite treated strip. This promising sterilization method deserves further testing by anybody interested in starting a nursery.

Nursery Treatment

A bent grass nursery should be treated exactly like the greens. It should be fertilized along with the greens and should be mowed exactly like the greens. Then the turf can be used to repair bad spots in a green and for re-sodding a rebuilt green.

The tendency in the past has been to use too little sand in the topsoil on new greens and in top-dressing mixtures.

A number of clubs in Southern Calif. are rebuilding bad greens. Some are using 85 per cent sand in the topsoil mixture based on investigations conducted by O.R. Lunt at USLA. The other 15 per cent is

about equal parts clay and fibrous type humus. Lunt prefers sand in the range of medium to fine, but he objects to very fine sand and silt. They aggravate compaction. Most of the clay soil of the Mid-West is actual silt loam. Its use in place of a true clay might make the difference between success and failure.

Certainly, the use of almost pure sand is justified in hot, dry areas where greens are watered twice a day — once at night and showered at noon in times of excessive heat. An open texture soil will not become waterlogged, because surplus water passes down through it rapidly. The extra waterholding capacity provided by the use of more clay and humus will not permit less frequent watering. Surface evaporation is too rapid. Over-saturation within the soil and ponded water are to be avoided.

Mixture for Northern Greens

In the North where average annual rainfall is 20 ins. or more, a mixture of two to three parts sand, one part good loam soil, and one part fibrous type humus has been very satisfactory. The preference has been for sand in the range of coarse (excluding fine gravel) down to medium fine, with little or no fine or very fine sand. Both pack like silt under the impact of traffic and power equipment. Aside from its granulating and waterholding properties, the organic fraction helps overcome the compacting effect of traffic.

The investigations by Lunt, and similar

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Noer's Turf Roundup

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ones in Texas, designed to determine the physical characteristics of a soil which will resist compaction and insure deep rooting are a step in the right direction. There should be some simple, quick way to test sand, soil and humus to evaluate them as constituents of a satisfactory topsoil mixture for golf greens. Highway engineers have found many of the answers to soil compacted subgrades for roadways. The same should be possible for golf greens. It would remove guesswork in formulating topsoil and topdressing mixtures.

Some clubs do not have funds for a rebuilding program. Where money is available, reconstruction is apt to extend over several years. In either case the supt. has the problem of keeping satisfactory surfaces for play. Troubles arise during hot weather. That is when root systems vanish on greens where the soil is heavy and compacted or is interspersed with layers of sand or humus. Turf must be watched for wilt throughout the daytime seven days a week during hot weather. Greens must be showered with a little water at the first sign of wilt or grass will wither and die. Showering for more than a few minutes

is dangerous because it may be necessary to use water several times on the same day. Surfaces may become overly wet if one uses more water than is needed to stop wilt.

Watch for Iron Chlorosis

The greens must be watched for iron chlorosis. A sickly, pale green color is the unmistakable sign. Unless normal green color is restored promptly by using a little ferrous sulfate (Copperas) grass may succumb to leaf spot, or it may wilt and die. The rate for iron sulfate should not exceed 2 ozs. per 1,000 sq. ft. with not more than 25 to 30 gals. of water for the entire green. Watering for several hours afterwards is not desirable because the iron is absorbed by the leaf. Late afternoon is the best time to apply iron.

By using modern aerifying equipment poor soil conditions can be improved. The cores should be removed and greens should be topdressed after aerifying with the right kind of mixture. By doing this several times each year and by applying the maximum amount of top-dressing the turf will tolerate, it is possible to create a more favorable soil medium and to encourage deeper rooting. Greens with bad soil conditions have been rectified by this

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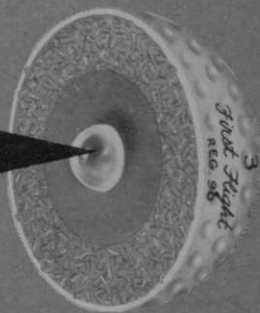
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method without rebuilding on many courses.

Sponge-like thatch on many bent grass greens created trouble in 1958 during wet spells because of its high waterholding capacity. An overly wet thatch encourages disease and is one of several causes of iron chlorosis.

Thatch formation may occur on fine textured Bermuda greens unless steps are taken to prevent its formation. Thatch consists of partially decayed stems and leaves.

Lime vs. Thatch

Steps must be taken to rid greens of excessive thatch. It can be accomplished by the periodic use of a little lime, preferably hydrate, along with enough nitrogen fertilizer for the grass and the cellulose decomposing soil microorganisms, together with aeration to insure a plentiful supply of air. Cellulose decomposing organisms are of the aerobic type (they must have free oxygen).

Lead arsenate is returning to popularity for use on greens and is being applied to fairways by some clubs. Excellent control of crabgrass on fairways was obtained by one Chicago club with 250 lbs. per acre. On greens the lead arsenate inhibits poa annua when used properly besides curbing crabgrass. Calcium arsenate is being substituted by some. It is effective, but caused burning in some of our trials 30 years ago. For that reason it is best to test its effect in a limited way before embarking on large scale use.

300 Pros Expected to Play in Seniors Championship

About 300 pros over 50 years of age will seek to dethrone Gene Sarazen, defending titleholder, when the PGA Seniors Championship is played at Dunedin, Fla., Jan. 27-Feb. 1. The event is co-sponsored by Wm. Teachers & Sons, Ltd., Glasgow and the PGA. Past champions and winners of 33 sectional Seniors titles play in the tournament with expenses paid as guests of Teachers. A total of \$10,000 in prizes is being offered for the 1959 competition with the winner getting, in addition, \$1500 for a trip to England where he will meet the British Seniors champion this summer. The winner also will receive the Ronald Teacher trophy, a sterling silver bowl fashioned after a medieval Scottish quaich or drinking cup mounted on a plinth or base fashioned from part of a beam of the Glasgow Cathedral.