

TIMELY TURF TOPICS

Issued By The

UNITED STATES GOLF ASSOCIATION GREEN SECTION

ROOM 307, SOUTH BUILDING
PLANT INDUSTRY STATION
BELTSVILLE, MD.

PLANNED MAINTENANCE PRODUCES SUPERIOR TURF

FALL CARE OF BENTGRASS PUTTING GREENS: Early fall is the time to repair summer damage and to prepare for another summer season. The following partial checklist may aid in preparations:

Matted grass

If the grass has a "nap," which can be raised by scuffing with a putter blade, if dollarspot is difficult to control, if the putting surface "footprints" badly, the chances are good that a "mat" has developed. Brush or rake severely and cut closely to remove all excess material. Fertilize, topdress and water, and the green should snap back to new life.

Clover

Spot-treat with arsenicals or 2,4-D (both used with caution) before topdressing and fertilizing. Clover present means that the grass had thinned and allowed the clover to come in (disease, insects, wear, poor drainage or poor aeration).

Topdressing

The best is none too good. Topdressing should contain from 20% to 30% of organic matter by volume (reed and sedge peat), and an equal volume of coarse, sharp sand (concrete sand containing small gravel) and a minimum of fine sand. Weed-free topdressing will save many hours of hand weeding next year.

Snowmold control

A late fall application of mercury ($\frac{2}{3}$ calomel, $\frac{1}{3}$ bichloride of mercury) mixture, applied at 4 ounces to 1,000 square feet, should reduce snowmold damage to a minimum. Slight discoloration may result if material is not handled carefully.

Fertilization

Grass should go into winter in a firm, healthy condition. Late-fall fertilization with a high proportion of nitrogen may increase susceptibility to snowmold.

Heavy, tight soil

The best partial solution is to deep fork with a tubular-tine fork or a potato spading fork and work coarse granular material into the holes. The best permanent solution is to rebuild and remake the soil so that it is open and porous. Roots need air. Roots at a 10-inch depth were found on the better putting greens in 1946.

PROPER SAND FOR CONSTRUCTION AND TOPDRESSING: Many difficulties encountered during the past year on greens have been caused by too tightly-compacted soil. This has been the result of the use of a fine textured sand in the construction of greens, and also in topdressing. If the particles of sand are very fine and are used in conjunction with a

quickly decomposable organic material (like raw sludge and manures) the organic acids resulting from the decomposition of the organic matter cements these fine particles together into a brick-like mass. Even with the use of a slowly decomposable organic compound, fine sand, under compaction, will reduce the air and water pore space.

In light of the variable grading nomenclature used by sand dealers throughout the country, an effort has been made, with the cooperation of the National Sand Gravel Association, to standardize a sand gradient for use in golf course construction and maintenance. It has been determined that the specification of the American Society for Testing Materials (ASTM) for a concrete sand has all the characteristics desirable for use by golf courses. When ordering sand the following ASTM specification should be used:

100%	passing a 3/8	sieve	(.371")
95-100%	"	" No. 4	" (.185")
45- 80%	"	" " 16	" (.046")
10- 30%	"	" " 50	" (.0118")
2- 10%	"	" " 100	" (.0058")

All ranges of the above specification have been examined by the staff of the Green Section and found to be practicable for use. The finest grade is not too fine, and the coarsest has only a small percentage of aggregate larger than .185" in diameter. These aggregate will be undersirable in mixing topdressing soil but can be removed easily with screening.

PRESENT SEED MARKET AS AFFECTING SEEDING RATES: In view of the existing shortage and high prices of turf-forming grass seeds, it is considered timely at this time to review the work of Mr. Alton E. Rabbitt, Agronomist, Navy Department, Bureau of Aeronautics, and formerly Agronomist in Charge of Turf for the National Capital Parks, Department of Interior, on the "Importance of Fertilizer in Establishing New Turf." The results of Mr. Rabbitt's experiments were published in "Parks and Recreation," Vol. 26, No. 2 (an organ of the American Institute of Park Executives), and also in "Turf Talks," Issue No. 20, O. M. Scott & Sons Company, Marysville, Ohio.

Mr. Rabbitt's work was accomplished under the jurisdiction of the National Capital Parks in cooperation with the Green Section and the Bureau of Plant Industry, U. S. Department of Agriculture.

The plots were established in the fall on a very heavy soil, low in all plant nutrients, which was heavily infested with weed seeds. The demonstration was limited to the use of Kentucky bluegrass at different rates of seeding and with varying amounts of fertilizer. Seed was sown at rates varying from 1 to 15 pounds to 1,000 square feet (40 to 600 pounds to the acre) and the fertilizer (10-6-4 with 1/4th of the nitrogen from an organic source) at the rates of 10, 20, and 40 pounds to 1,000 square feet (400, 800, and 1,600 pounds to the acre). The seed and fertilizer were raked into the surface at one operation.

Early results indicated that the best plots were those which had received high rates of seed and fertilizer. It was found, however, that nine months after seeding the low rates of seeding (with the exception of the one-pound rate - 40 pounds to the acre), with high fertilizer rates (1,600 pounds to the acre) gave as good turf as the higher rates of seedings which had similar amounts of fertilizer.

At the end of one year the best plots were those which had been sown at the rate of 1, 2, and 3 pounds to 1,000 square feet (40, 80, and 120 pounds to the acre) and fertilized with 40 pounds of 10-6-4 (1,600 pounds to the acre). The plots with the lower rates of seeding spread more slowly during the first year and had more weeds in the plots than had the plots with the heavier rates of seeding but the heavier rates suffered severely from disease attacks the summer following seeding operations. These disease attacks thinned the sod and thereby encouraged weed infestations, with the result that a higher weed population occurred than with the lower rates of seeding. No disease was evident on the plots seeded at the 1, 2, and 3-pound rates at any time.

With the advent of 2,4-D, the weed population in turf that receives the lower seeding rates can be controlled easily, as most of the common weeds prevalent at that time were dandelion and plantain.

These plots demonstrated that good turf could be established quickly on very poor soil by seeding in the fall at the rate of 3 pounds to 1,000 square feet (120 pounds to the acre). In the same series of plots good turf was established within a year when seeded at rates as low as 1 to 2 pounds to 1,000 square feet (40 to 60 pounds to the acre) when fertilizer was applied at the rate of 4 pounds of nitrogen to 1,000 square feet (1,600 pounds of 10-6-4 to the acre).

In light of the demonstration plots conducted by Mr. Rabbitt, it is our opinion that seeding rates of 80 to 100 pounds to the acre are sufficient provided fertilizer is applied at rates to furnish from 120 to 160 pounds of nitrogen to the acre, to produce excellent turf under good maintenance practice. This is particularly significant during the current seed shortage and high prices.

GREENKEEPER GADGETS: Many excellent pieces of equipment have been designed and manufactured locally by greenkeepers and superintendents to perform jobs for which no commercial equipment is available. All of these ideas are both time-and-labor saving. In light of the shortage of equipment and labor the Green Section is attempting to circulate these ideas to all clubs in the interest of better maintenance. If you have designed any equipment such as this and will permit the distribution of the idea to other clubs, please send in pictures of the device and a short explanation as to its use and materials employed in its construction.

FAIRWAY BENT: High cutting of fairways to encourage Kentucky bluegrass has not prevented bentgrass from encroaching and, in some cases, from taking over the bluegrass. Where this has happened the bents have become fluffy under high cutting and have been wholly undesirable from the standpoint of all classes of players. During recent trips, members of the Green Section staff have observed many close-growing, non-fluffy, disease-and-drought-tolerant bents, even under the higher cutting for bluegrass, and many on unwatered fairways also.

The Green Section wants plugs from those good patches of bents in fairways for cooperative testing and breeding programs. Cut three plugs (no soil - just grass) from each "best" patch so that they fit in an ice cream carton, label with name of club and number of fairway, then wrap in wax paper, place in carton, wrap entire carton in brown paper and address it to

USGA Green Section
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Note: The Open Championship at Canterbury and the Amateur Championship at Baltusrol were played on fairways which were predominantly bent grass and which were cut at approximately one-half inch. With such high standards of turf maintenance set for USGA tournaments the Green Section is committed to a program of collecting, breeding, testing, increasing and distributing superior bents for fairway purposes. Two cooperative projects on bents for fairways were set up early in 1946, supported by Green Section Research Grants, at Pennsylvania and Rhode Island.

QUESTIONS AND ANSWERS

- Q. Is DDT effective against grubs of the Japanese beetle and white grubs?
A. Yes. Entomologists in several states recommend that "For grubs, use 5% DDT powder at the same rate you use lead arsenate (400 pounds to the acre)." NOTE: It is not yet known how long the effect will last nor when a repeat treatment will be necessary.
- Q. Is there anything we can do to get rid of the Asiatic stinkworm on our putting greens?
A. Nothing that we know of at the present time. Neither lead arsenate nor DDT seems to affect them. There is promise in some of the newer insecticides which are being tested now.