

# GRAU'S ANSWERS TO TURF QUESTIONS



If you have questions about turf care, please send them to Fred Grau (right) c/o Golfdom.

## Topdressing — Coarse vs Fine

Recently at a midwestern club four rebuilt greens went bad. Bent disappeared leaving only poa and dandelions. Other greens were in good shape. All had been managed identically. One of the questions I received from the club was: "Are two inches of soil enough?" I requested a detailed description of conditions along with cup cores cut in half from top to bottom for examination. (No chemical tests can be made by this dept.)

When the cores and letter arrived everything became clear. The four rebuilt greens (that went bad) had been very well prepared with plenty of good coarse sand, then topdressed with native soil until 2 ins. had been applied. The local soil is a fine-grained, dark silt loam of excellent quality. The grass on the greens built on native soil were in good condition with roots several inches deep — no trouble, no complaints.

As the grass on the four new greens developed, it needed topdressing. All greens were topdressed with the same material which was the good dark local fine-grained soil. It worked fine on all the greens except the four that were rebuilt on a base of coarse sandy soil. The more these four were topdressed, the worse they got. The cores that were sent showed 2 ins. of the fine-grained soil on top of the coarse sand. Not a single root had reached the sand. In the 2-in. topdressing layer the roots were superficial. Under the same treatment all of the other greens produced good bent turf with good healthy white roots several inches deep.

### Water in Small Pores

It can be easily demonstrated that water is held more firmly by small pores than by large ones. A fine-grained soil resting upon a bed of coarser material (sand) will not permit any soil water to percolate down-

wards until the pores in the fine soil are completely saturated. In a saturated condition there is no air left in the pores. When this situation occurs daily (with each watering) the grass roots become oxygen starved. Soon the only live roots are those near the surface where a little oxygen becomes available as the excess water moves downward. Sooner or later the bent grasses become so weakened that poa moves in without competition. Other weeds invade easily.

The question arises, "Was it wrong to rebuild with coarse sand?" The answer is, No! Had the four rebuilt greens been topdressed with material identical in texture and composition with that in the green, roots would have been deep and good healthy turf could have been maintained under conditions of good drainage and aeration.

### Uniform Column

Then we ask, "Was it wrong to topdress with fine-grained soil?" The answer is "Yes!" "But", you say, "the silt loam topdressing on the other greens worked fine." Yes, because the texture and composition of the topdressing were precisely the same as that already in the other greens. The effect was simply to increase the depth of the uniform column of soil. It is uniformity of texture that helps to promote good drainage and aeration. A layer of any other kind disrupts free movement of water and air.

What would have happened if the top-



1960 officers and directors of the New England GCSA are (front row, l to r): Mike O'Grady, New Bedford CC; Joe Butler, United Shoe CC; Albert Allen, Kernwood CC; Narry Sperandio, Concord CC; and Manuel Francis, Vesper CC. (Second row): John Sperandio, Framingham CC; Dick Blake, Whittensville CC; Ray Brigham, R. I. CC; Phil Cassidy, Western GC; and Bill Ash, Allendale CC. Not shown are Ted Swanson, Bear Hill CC, and Guy Tedesco, Wayland CC.

dressing had been somewhat coarser than the existing soil? Results would have been good providing the same texture of topdressing was continued. The coarser material with larger pores would permit rapid downward movement of moisture into the finer-textured soil below. The net effect would be to have a dry surface for a greater part of the day. This is good for playing purposes and good for the grass.

The club also asked: "Could the situation be improved by more topdressing, thus increasing the depth of the silt loam soil over the sand?" The answer is a cautious "Yes." But it would take years, and the greens would be poor and hard to maintain until a depth of 8 to 10 ins. was reached. Under usual practices this would take 20 to 30 years.

#### Re-work from Nursery

The solution suggested was this. Start a sod nursery of Penncross creeping bent sufficiently large to re-sod the four bad greens. Use no more than one pound of Penncross seed to 1,000 sq. ft. (many superintendents get perfect stands with one-half pound). Incorporate ample fertility in the seedbed. When the nursery sod is ready to strip and lay, remove the poor sod from the four greens. Completely and thoroughly cultivate the sandy soil to at least a 10 or 12 in. depth, incorporating the surface silt loam soil that had been added as topdressing until the mixture is uniform from top to bottom. Then incorporate adequate fertilizer, finish grading and lay the new sod.

#### Deadline on Greens

**Q:** My question concerns management practices on newly established greens in preparation for first play in July, 1960. The greens in question were stolonized C-1 and C-19 established in the fall of 1959. They were topdressed once last fall and by July 1st will have received three or four topdressings. They have produced very good turf; however, there seems to be too many prostrate runners. Only in isolated areas are the greens showing the stubby upright leaf sprigs required for putting. Cutting height is now around  $\frac{1}{2}$  in. with plans to reduce this gradually to around  $\frac{3}{8}$  or  $\frac{3}{16}$ .

Should the horizontal runners of C-1 and C-19 be lifted by brushing or with the comb teeth on the greensmower so they may be cut off and a vertical leaf blade growth encouraged, or should the desired conditions be sought by further topdressings? We have only about six weeks until our proposed opening date. How long, under the ideal growing conditions now existing in our area, will it take to produce the desired leaf surface area if we begin lifting and cutting off the tips of these runners or stolons?

None of us involved in the management of this new course is familiar with the final establishment practices to follow in new greens. Greens have not been aerified nor have we used any sort of vertical cutting machine on them. (Pennsylvania)

**A:** By all means encourage the dense upright growth by further light topdressings and adequate fertilization. To lift the horizontal runners and remove them would delay the development of dense turf. The runners take root at the nodes and new leaves form to develop density. Topdressing encourages rooting at the nodes. It sounds as though the planting procedure left many bare areas that can be covered only by

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Williamson, W. Va. . . . Course has five holes in W. Va. and four in Ky. . . . Paul Schurtz is pro-mgr. . . . Expect to be playing new Spring Valley CC, Sharon, Mass., next spring . . . Nathaniel Kates and Eugene Weinberg head Spring Valley committee that is looking for a pro . . . Propose building 9-hole course at Montross, Va., to plans of Ault and Jamison.

Charles M. Burgess, 86, professional at Woodland GC in Boston, died recently at the home of his son, Charles 2d, at Newtonville, Mass. . . . The veteran Burgess came from his native Montrose, Scotland, in 1908 to be Woodland's pro and was in that post until his retirement in 1940 . . . He added four more years on the job while his successor, John Thoren, was in military service . . . Burgess was coach of the Harvard team that won the 1913 Intercollegiate championship and was credited by two of Woodland's members, Francis Ouimet and Jesse Guilford, with helping them win national championships.

Edward J. Brugger who has brought the two courses at Swope Park, Kansas City, Mo., into nationwide fame as courses that are in good condition despite heavy traffic and adverse weather, is giving up management of the No. 1 course and con-

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horizontal runners that creep in to fill the void. Inadequate seedbed fertilization may have seriously delayed full coverage. Greens that have 8 lbs. of nitrogen to 1,000 sq. ft., (plus lime, P, and K, of course) worked into the seedbed just before planting invariably are ready for play within eight weeks.

Do little or no vertical cutting or combing until turf is solid. Very light vertical mowing just before opening will make the putting surface smoother. During July you should be able to produce putting surfaces that are completely acceptable for opening day.

Your unfamiliarity with management procedures need not hamper you. You have turf specialists at Penn State who are tops in the field. They are as close as your telephone or your county agent's office. Also, you have highly-qualified supts. within a few miles of you. They welcome the opportunity to be of service.

concentrating on maintenance of No. 2 which he converted to grass greens in 1938 . . . Brugger has been at Swope Park 28 years . . . In 1935 he rebuilt No. 1 with architect Riggs Miller . . . He was pro-mgr. of No. 2 from 1943 through 1946 . . . In

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