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# Grau's Answers to Turf Questions

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If you've got a question you want Dr. Fred V. Grau to answer, please address it to Grau Q&A, Golfdom, 407 S. Dearborn, Chicago 5, Ill.

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## Don't Drown the Grass

TIME was when I made very positive statements to the effect that "most of our turf troubles are caused by too much water." Bob Hagan of California took issue with me and wrote that the statement would be more nearly accurate if it said, "Most of our turf troubles are caused by too little water too often". I am sure that there are cases where both statements are correct. At any rate, the misuse of water is a serious offense and is one that demands much attention.

Recently I visited a course where soil cores indicated perfect soil moisture. At least, it looked perfect to me. The grass was starving for nitrogen but I considered that the green would not need water for three or four days. We proceeded around the course and upon our return saw that every green was being flooded so that excess water ran off in streams and filled every depression on every green and approach. Upon analyzing the situation I realized the greensmen believed that the yellow color of the grass was due to lack of water — actually it was due to nitrogen starvation.

The symptoms often are confused and are quite similar. In this case nitrogen would be cheap compared to the high cost of frequent watering and the subsequent damage to the turf. The grass had no

roots below the first half-inch of surface soil. The grass had no resistance to diseases or insects and no ability to take wear and tear. Recovery from injuries was extremely slow.

Watering such as I have described creates weed problems (poa annua, chickweed, pearlwort, goosegrass). When poa invades there is general consternation and the belief is prevalent that "poa is crowding out good grasses." Actually, the good grasses were to the point where they had no ability to resist poa or anything else. "But," I hear, "if I stop watering my poa I'll lose it and I can't afford to do that. I've got to keep it looking good."

One of the unseen results of water mismanagement is the effect on the bacteria. Constant saturation forces air out of the spaces in the soil. Without air the good bacteria drown—they simply can't operate. The fungi (disease-producing) have a "field day." That means spray for disease, boys. Without air the grass roots can absorb neither water nor plant nutrients—so the grass wilts and starves. Encouraging bacteria is of the utmost importance now with so much fertilizer being used that demands good aeration for steady controlled release.

One of the common excuses for using lots of water (or too little too often) is that "the greens are hard." Water used as a "soil softener" can easily result in even harder surfaces which demand more water to "soften" them which makes them still harder and — whoa!! Let's stop this vicious cycle right now.

Greens can be encouraged to hold a shot even when the soil is dry by (1) more adequate feeding so that there is a constant uniform supply of nutrients from controlled-release materials. Well-fed grass tends to build a desirable cushion which will hold a shot. (2) Better aeration by occasional use of machines and by the improvement of the physical condition of the soil through the use of sand. (3) Teaching players how to hit a shot to a *firm* green.

Firm turf plays much better than soft sloppy turf. Greater accuracy and control are possible and the results achieved give greater satisfaction.

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## Hard and Soft Greens

Q. I have read with considerable interest your bulletins on the subject of growing grass. We are having considerable trouble here with our Highland bent greens and I would like your advice on one point. I have noted your theory about not watering grass too often. I have al-



(Left to right): James M. Latham, Jr., M. K. Jeffords, George H. King, Andrew Bertoni, Dr. Glenn Burton, George P. Donaldson, B. P. Robinson.

## Burton Gets GCSA Award for Work with Bermudas

During the recent Southeastern Turf-grass conference at Tifton, Ga., Dr. Glenn Burton was presented a plaque by the GCSA for his extensive and valuable work in the propagation of hybrid Bermudas.

Making the presentation on behalf of GCSA was Director Andrew Bertoni, Supt. at Meadowbrook CC, Northville, Mich.,

who also appeared as a speaker on the conference program. When presenting the award Bertoni said: "The GCSA has found it a privilege to present you with this plaque in recognition of your promotion of turfgrass. The cross-breeding and propagation of refined grasses has earned the gratitude of golfers, turfmen and lawn lovers throughout the world. Supts. admire, honor and gratefully appreciate your many splendid achievements."

ways thought that theory sound as applied to most common lawn grasses such as bluegrass and fescue but I have been led to believe that bent should be watered thoroughly 5 or 6 times a week. Most of the good grass greens that I have played on seem to stay wet pretty constantly. Our supt. follows your theory and waters the greens only twice a week and not too thoroughly then. I would certainly appreciate your remarks on this subject. (Va.)

A. Most bent greens that are thoroughly watered five to six times a week usually are badly overwatered. Bent can't use this much water but it struggles to adapt itself to this practice which is used to keep greens soft. A dry green is a healthy green. Diseases need lots of moisture to grow and spread. Supts. who try to keep greens on the dry side to keep them healthy are very likely to be criticized for the greens being too hard. A hard green is difficult for most players, amateurs especially, because no one ever taught them how to play to a firm green. Rather than invite excessive disease with excess water designed to keep the green soft, it would be better to thoroughly aerate greens at intervals and to incorporate sand. This, in effect changes soil composition, creates better drainage, deeper roots and greater resilience.

Greens can be kept drier and healthier and capable of holding a well-played shot even when they are dry! A good watering twice a week, plus spot touchups as needed, should maintain greens in good shape if the grass is adapted, and has deep roots in a well-drained soil.

## Filling In Bare Spots

Q. Our municipal course is built around a hill with an average slope of 6 ft. per 100. We have bentgrass greens and bluegrass tees. The fairways are mostly blue grama with some crested wheat. The blue grama is growing as it does on the pasture in this country, in bunches with bare spots between. We are trying to mow, water and fertilize to get the grass to spread.

Our question is, would it hurt or help the fairway situation to use a 20-ton roller to bring the grass clumps down level with the surfaces or would it be better to aerate and keep filling in? (N. Mex.)

A. My better judgment tells me to advise you not to use the 20-ton roller to smooth the surface of the fairways. I am afraid that this might create such compaction that you would not be able to get water to enter the soil nor would the grass survive this treatment for long. I would advise you to continue to water and fertilize so as to give the grass a chance to spread and fill in the voids. Unfortunately, blue grama will not do this by itself. I would advise introducing some Buffalo grass and some Ugandagrass for more rapid coverage in your climate. By filling the spaces between the grama clumps with these spreading grasses, your water and fertilizer will be able to do some good and you will be able to mow and develop a fairly smooth, dense fairway sod. I am not sure that I would continue to do much aerating if you are able to obtain satisfactory penetration of irrigation water. This might be accomplished later on when the turf is solid.

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