

QUESTIONS FREQUENTLY ASKED

Typical questions and typical answers in the United States will interest greenkeepers here and may give a new angle on treatment. This selection comes from the South Western office of the U.S.G.A. Green Section, one of the five regional offices covering the North American continent. It is reprinted with grateful acknowledgments to the U.S.G.A. Golf Journal. What?

When should overseeding be done in bentgrass greens which are highly infested with *Poa annua*?

The purpose of overseeding with additional bentgrass is to increase the relative population of bentgrass to *Poa annua*. Normally, seeding would be done either in the fall or spring. Seeding during these two seasons should not be discredited or discontinued. However, it is felt that much can be gained from summer overseeding. The procedure followed has been either to power spike in two or three directions to open the turf and permit more seed to contact the soil or to use a verticut with the reel disengaged to accomplish the same effect.

Should a summer aeration be warranted, such an overseeding could be made concurrently. Inasmuch as a very close observation is essential during the summer and especially if the greens are aerified, the possibility of losing seedlings due to drying is reduced greatly.

The rate to seed should be in the range of two or three pounds of seed per 1,000 square feet. While this programme has helped most of those who have tried it, it does not represent a cure-all for *Poa annua*. Rather it is possibly another step in management to discourage *Poa annua*.

Is any benefit derived from winter fertilisation of fairway turf?

Virginia tests have demonstrated that winter applications of fertiliser, even on steep roadside slopes, have had little

leaching loss. USDA tests have shown that such feeding has an unexpectedly important influence—there is a great deal of winter root growth even though grass tops are frozen stiff.

An experiment at the Lawn Institute in Marysville, Ohio, with the application of high rates of urea to frozen bluegrass sod in the middle of January resulted in just as attractive a spring turf as did equal amounts of fertiliser applied in March. Also, the effects of this mid-winter feeding continued through the summer in the darker green colour of the experimental area. At least one beneficial effect was that there was no surge of spring growth that aggravates spring mowing.

What kind of topdressing mixture is best for greens?

Once a topsoil mixture is selected and the green constructed, every effort should be made to keep the subsequent applications of topsoil as nearly like the original as possible. The best way to go about this is to exercise great care in selecting the original topsoil mixture so that there will be no need for a change later on.

Much of the guesswork can be taken out of the selection of the proper soil mixture with a physical analysis. Such an analysis measures the porosity, permeability, and moisture retention of a soil mixture. These are important characteristics of any soil mixture; and it follows that it would be much better to test these characteristics before the final selection of a soil mixture is made than to select the mixture, incorporate it in a green, and then have it turn out to be undesirable.

If it should become necessary to change the structure of soil under turf, every effort should be made to avoid any type of layering. At least one method which has been successful is the incorporation of amendments into the soil by placing them in the aerifier holes after a

thorough aeration. If this method does not work, complete renovation may be the only answer.

Why does young grass in many greens show a nitrogen deficiency even when greater rates of N are applied than normally required?

In most instances when this occurs, raw or readily decomposable organic matter was used in the mixture. For the most part, organic matter breakdown is dependent upon soil microbes. While their growth responds to temperature changes, they, like the grass, require nutrients for growth; and when an organic material is available, they seem to prosper. Inasmuch as the bodies of the microbes are rich in proteins (which are about 6.25 per cent nitrogen), much of the nitrogen in the soil is tied up in their bodies as they grow.

The microbes consume the available substrate (the rough organic in this case) until their population becomes too great

for it to support. At that point, death of the older and weaker of the microbes begins to occur until an equilibrium in population is established. It is during the period prior to the establishment of the equilibrium that the deficiency develops; during this time supplemental applications of an inorganic and readily available source of nitrogen are warranted.

While much nitrogen can be tied up in proteins and complex nucleo-proteins, later it will become available for turf consumption as those complex compounds are broken down, as described above, and also through chemical decomposition.

The deficiency should not cause alarm but should be expected and its management planned when such sources of organic matter are utilised. It is for this same reason that farmers must fertilize more after a cover crop than when no cover crop was ploughed in prior to planting.



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