

Grau's Answers to Turf questions

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.



Nature's Blessings

NATURE in the raw is seldom mild." There was nothing mild about the winter and spring just past. Over a large part of northern United States and Canada the present refrain is, "Worst winter in 30 years! Never saw snow and ice so thick on the ground for such a long period".

Last fall everything was growing well when winter clamped down suddenly. There was no hardening off period. Heavy snow then started to melt, froze into solid ice and stayed that way (with periodic accumulations) until late spring. Smothering (lack of oxygen) resulted. When the ice left, the grass was a clean green. As Andy Bertoni; Meadowbrook CC, Northville, Mich., said, "I thought we had it made." The color was a delusion. The damage had been done. Cold dry winds for two to three weeks proceeded to suck the moisture out of the blades faster than the suffocated roots could pull it out of the cold soil. Progressive browning and loss of turf was commonplace. Many trees and shrubs were badly damaged and some were killed outright.

Winter Sports Hurt

The grasses that suffered greatest loss were Colonial bent and poa annua. Here and there a little other bent was hurt but it was not widespread. Certainly the losses were much greater where there had been winter sports on the ice and snow. At Sarnia, in Ontario and at Meadowbrook in Detroit all grass died on greens that

were the starting points of sled and ski runs.

Another refrain is heard from Toronto to Chicago to the effect that "Nature did us a favor. It was blessing in disguise". Jack Harris at Ancaster, near Toronto, said, "Nature saved me some money. I had bought a lot of arsenicals to kill my poa. Now I won't have to use it."

There was a "run on the bank" for Penncross seed. Many were unable to find any for reseeding the damaged spots. Some of the supts. were setting plugs of good creeping bents from their nurseries.

Low spots in greens stood out as islands of destruction. Here water had accumulated where roots were poor to begin with. Ice was thickest and stayed longest. Poor drainage became self-evident. Much rebuilding will be in order.

One club with Penncross greens came thru without a spot, then proceeded to turn all the greens brown with an application of an improperly-formulated mixed fertilizer. At another club proper fertilization greatly aided recovery as shown in the famous "Sunningdale Strips".

Strong Survived

No evidence presented itself to the effect that management could be held responsible for turf injury except the general observation that damage was greatest where an excess of phosphorous had been used. We simply had one of those brutal winters when only the strong survive. Let
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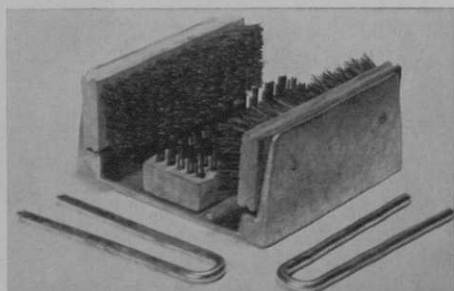
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Grau's Answers

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it be a lesson "to plant only the strongest, best adapted grasses".

No fescue or bluegrass was damaged so far as we could tell. Fairways look better than ever except where poa went out. Tees suffered in direct proportion to their content of Poa and Colonial bent.

Attendance was light at the regular meeting of the Ontario GCSA at St. Catherine's G&CC because so many stayed home to try to hurry the "comeback" of poa and the seed that had been sown. It is to the everlasting credit of the supts. who were there that very few "pushed the panic button". They were out to learn all they could about the troubles of others so they could attack their own problems more intelligently.

Seek Perfect Balance

Great interest is being shown in the use of straight materials, especially on greens, in order to achieve more perfect balance of nutrients. There is a growing awareness of the danger of an oversupply of phosphorous, for example. It is known that an excess of phosphorous tends to precipitate iron in the plant circulatory system. With "pipes" blocked, water and nutrients can not move and death follows. Such a situation may have contributed to many cases of injury this spring.

Potash hunger serves to make the situation worse. Much winterkill of wheat can be traced to lack of potash. Adequate potash helps to "clear the pipes" so that nutrients can move about freely in the plant. Potash can be used generously with little risk because it is removed constantly by leaching and by luxury consumption

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by the plant. The excess is removed in the clippings.

Recommends Straight Materials

The troubles of the present help us to plan a more trouble-free future. We share the belief that professional managers of turf will come closer to providing a more perfect balance of nutrients by using straight materials. In this way each nutrient element can be supplied in the proper quantity at the best time. Excesses largely will be a thing of the past.

Many supts. have directed justified criticism against granular materials which tend to lie on top of the turf on putting greens. In this position much material is picked up by mowers and wasted. Some of it has caused severe burning. The greatest sin is that the particles lying on the turf do not contribute much to nutrition. They may even tend to attract roots to the surface and help to develop more thatch and mat. Material on the surface may be washed into low places where excess accumulation tends to create serious troubles.

In summarizing the total situation we are forced to recognize that Nature has shown us the weaknesses in our systems.

Nurseries Still Needed

Many of the nurseries we have urged clubs to build are just now being planned. It is like locking the stable door too late, but, we will have other winters like the one just past.

The sturdy dependable creeping bents in the trouble areas are Washington, Old Orchard and Toronto. Cohansey is looking better all the time. But, be sure you get the real McCoy in any stolon bent.

Drainage (surface, internal and sub) is of prime importance, the critical factor in severe seasons.

Fairway Fertilization

Q. Our course is now in the process of a complete fairway fertilization program. We recently purchased several thousand lbs. of chemical fertilizer and the constituents of this fertilizer consist of the following: 21 per cent nitrogen, 24 per cent combined sulphur and 55 per cent inert materials. The trade name of this fertilizer is "Sulfate of Ammonia."

As there are no agronomists in our immediate area, we would appreciate it very much if you would answer the following questions relative to our program and also advise us as to the desirability of this type of fertilizer. Our main problems are as follows:

1. Should we use this type of fertilizer alleviate in any way our serious clover problem?
2. Should we aerify our fairways, which has not been done for 10 years, prior to the applica-



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tion of the fertilizer, or should we put the fertilizer on and then aerify?

3. What would be the best month to start the program?
4. Should we have a soil analysis taken of our fairways?
5. Should this type of fertilizer require a surplus of water to prevent burning? (Montana)

A. Sulfate of ammonia is a well-known chemical nitrogen fertilizer material. It furnishes nitrogen quite inexpensively compared to most nitrogen materials initially, but has the big disadvantage of leaching out of the soil (up to 70 per cent) and burning the grass severely. Properly used, lightly and frequently, sulfate can help to alleviate a clover problem, but the labor cost of the frequent applications nullifies the advantage of the original low cost.

Fairways may be aerified any time they need it. Chances are good that, if your bluegrass fairways have not been aerified for 10 years, it would do them a lot of good to be thoroughly cultivated prior to the application of fertilizer. Since the sulfate of ammonia is completely soluble, it really doesn't make a great deal of difference whether you fertilize first and then aerify, or whether you aerify first and then fertilize. If the water will penetrate into the soil at all, it will carry the soluble sulfate with it.

It makes little difference when you start your program — I would say the sooner the better. The time to apply sulfate, of course, is during the growing season.

Soil analyses represent the inventory of your assets. It is well to have soil analyses made once a year in order to check on the conditions of the soil pH and levels of calcium, phosphate and potash.

If the sulfate is applied when the grass is very dry and the spreader is working well so that the distribution is perfectly uniform, your chances of burning are minimized. However, sulfate, applied late in the afternoon, can draw enough moisture from the air during the night to cause severe burning. The burning will be accentuated if there is any traffic or foot-printing. It certainly helps to wash the sulfate in with water to minimize burning.

As I recall, your fairways are made up mostly of Kentucky bluegrass. Recently, in conversation with experiment station personnel, it was developed that the leafspot disease of Kentucky bluegrass appears to be accentuated by the use of inorganic nitrogen fertilizers. Some of your clover problem quite likely could be the result of leaf-spot infection and consequent weakening of the turf, which would allow the clover to invade. It is entirely possible that this situation may be accentuated by the soluble, quickly-available fertilizer.

Usually, in planning a complete fertilizer program, the soil analyses are made first and then the fertilizer is purchased on the basis of the interpretation of the analyses so that the grass will receive proper balanced nutrition. May I suggest that, when you have your state experiment station run the soil analyses, I will be happy to review a copy of the test results and help you interpret them.

Clover Infestation

Q. We have a bad infestation of white clover on our fairways and want to do something about it this season. When should we start and what shall we use? We can get the use of a farm sprayer with pressure tank that has about a 30-ft. boom. Is 2,4-D the right product to use and if so in what proportions? (Minnesota)

A. White clover in your fairways is indicative of a shortage of nitrogen. In your plans to reduce the clover with chemicals, be sure to include in your budget enough money to buy nitrogen to feed the grass so that it will be dense and thick so that clover cannot re-invade.

A mixture of 2,4-D and 2,4,5-T called "Brush Killer" is better than 2,4-D alone for killing clover. Rates for best results are found on containers. Rates vary according to the percentage of active ingredient in the product. Follow directions closely with respect to rates and temperatures.

Chemical clover control will be far more effective when followed by a generous application of nitrogen fertilizer.

What Grass to Plant

Q. We are building a new golf course and will plant the greens late this summer. We are undecided about what grass to plant. We have been advised to use Old Orchard. May we have your opinion of this grass? (Iowa)

A. Old Orchard bent has turned in a fine performance record among the creeping bents. Permit me to quote from a letter written by Chuck Zwiener, Golf Coach, State University of Iowa, Iowa City:

"... our greens are as fine as you will find any place. . . . Old Orchard makes a fine putting surface. It has beautiful color and texture and is not grainy as some bents are. I would heartily recommend it to anyone in the country as an excellent grass. Our supt., Harold Brown, is sold on its fine maintenance qualities. . . . if anyone is skeptical about Old Orchard, send him here to look at our greens".

It was on this course that R. R. Bond, developer of Old Orchard, planted a demonstration green in fall, 1958, before 107 supts. New fertilizers in the seedbed were part of the demonstration.

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