USGA

Rebuilding Green - The Journey Begins

By Pat Gross

Part I - Selecting the Sand

As most of you are aware, the USGA revised the recommendations for putting green construction in 1993 in an effort to incorporate new information and answer concerns about laboratory procedures. Over the past three years, our office has had several calls and questions asking for clarifications regarding the new putting green construction recommendations. Many people, including architects, contractors, sand suppliers and superintendents are still unclear about the revisions to the recommendations and the possible pitfalls along the road to selecting suitable materials for putting green construction. This article is the first is a four-part series to help answer some of these questions and outline some of the common problems associated with selecting suitable construction materials.

So the journey beings. Let's say you have a problem green on the golf course and you get authorization from management to go ahead and rebuild the green. Where do you start? Assuming you have already accurately identified the problem the next step is to enlist the services of a golf course architect and decide on the design for the new green and the scope of work to be completed. In other words, develop a good plan. Then, just like building a house, you begin by laying the foundation. In the case of putting greens, that means selecting the right construction materials.

It's best to start with the development of the root zone mix since this is where the plant will be growing, and the proper selection of materials is critical for long-term success. You should **make time** to survey the vendors in your area and personally obtain one-gallon samples of representative sands and submit them to a laboratory that has agreed to test the materials according to the USGA testing protocols and procedures. Although many sand suppliers will offer their latest test results, it is critical that you test the materials yourself since sand quality can change due to a number of factors. Also, be aware that many of the sands used for golf green construction are the product of blending two or three different sands to achieve the desired sand particle size distribution. It is possible that the particle distribution can change depending on the mixing procedures and ratios. You should ask the sand supplier these questions and find out what materials they use in blending and producing sands for golf green construction. Once you have obtained the samples, the laboratory will perform a sieve analysis to determine of the sand falls within the USGA guidelines.

Many superintendents are concerned about the infiltration rate, or "perk" rate of

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Rebuilding Greens (Cont.)

otential sands, and many sand suppliers will ask what kind of "perk" rate the superintendent desires. Be aware that the infiltration rate test is the most variable and least reliable parameter to use when evaluating a potential sand and rootzone mix. If the sand particle size distribution is correct with a minimum of fine particles, the sand should have good long-term performance characteristics and the infiltration will fall into line. The ranges that are recommended by the USGA for infiltration rate should only be used as a guide, and the wide range reflects the degree of variability one many expect in testing.

So, what if the course is planning to use effluent water or a poor quality water source? Once again, if you have the right nd, the infiltration rate should take care of itself. With poor quality water, you should be careful about having too many fine particles in the sand, and you may wish to discuss with the sand supplier the possibility of increasing the percentage of particles in the medium-to-coarse range. Since most sand mixes are a blend of two or three materials, the sand supplier may be willing to work with you in this regard. But don't go overboard — an excessive amount of coarse particles or fine gravel could be a problems for future topdressing operations, and the resulting mix may not hold enough moisture to sustain healthy turf growth. The mix still needs to retain an adequate amount of moisture.

Once you have selected the proper sand, you are well on your way to developing a good rootzone mix for successful putting green construction. Stay tuned, next month we will discuss the second step of rootzone mix development - selection of the organic matter. ✦

The GCSAA Public Relations Department has announced a series of new member benefits and programs. Beginning March 1st, a Media Guidebook, Environmental Guidebook and Emergency Communications Guidebook are being made available to all GCSAA members. The guidebooks were developed to assist Superintendents, in a systematic manner, with issues involving the media. Copies can be obtained by Contacting the Informational Services Department at 800-472-7878.