USGA

Rebuilding Greens - The Journey Continues

By Pat Gross

Part I - Selecting the Organic Matter

Last month, we discussed the first and most important step of developing a root zone mix, the selection of sand. The next step is selecting an appropriate organic matter to blend with the sand. Some people question whether organic matter is even needed in the root zone mix, saying that it is too expensive and that several courses have successfully built greens without the addition of organic matter. While this may be true in some cases, there are several good reasons for including organic matter in the root zone mix. First, organic matter increases the nutrient holding capacity and moisture retention characteristics of the sand. This is very important from an environmental perspective to prevent rapid leaching of nutrients applied to the turf. Second, the addition of organic matter reduces the bulk density of the Mix. Other benefits of using organic matter include improved green-up and establishment, better rooting stability and wear tolerance, improved gas exchange, and increased microbial activity. Actually, the addition of an organic amendment is most critical during the first few years of establishment until the turfgrass stand can generate its own organic matter through normal decomposition of roots, stems and clippings. As a comparison, the greens I have seen grown on pure sand experience significant problems during the first few years including rapid thatch accumulation (no microbial activity to break down the thatch) and they need a tremendous amount of fertilizer to sustain active growth. In my opinion, the cost of adding organic matter to the root zone mix is minimal and will give you a healthier green with fewer inputs.

Organic matter sources - The most common organic amendment is peat because of its availability and high organic matter content. There is a wide variability in various peats depending on the source of the peat, degree of decomposition, pH, ash content, and moisture content. These factors can influence the performance of the root zone mix depending on the characteristics of the sand selected for construction. There is no way to determine the suitability of a particular peat or other amendment by simply looking at it - laboratory testing is a must! Other organic amendments have been used successfully including rice hulls, sawdust, and bark products. The only caution here is that the materials must be adequately composted through the thermophilic stage (when the compost pile gets very hot) to the mesophilic stabilization phase (when the pile cools off). All of these materials can be used successfully, but the bottom line is to have the materials tested by the laboratory to see which one works best

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Supporter Listing

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