

Heat stress 'solutions' can hurt

by TERRY McIVER / Managing Editor

Bentgrass—regardless of the variety—is naturally prone to heat stress. Well-intentioned management that is performed to defend the turf against the heat can often get in the way of healthy turf.

Speaking at the North Carolina Turf Conference in January, Dr. Milt Engelke of Texas A&M reminded superintendents that different species of turfgrasses have biological strengths and weaknesses that influence how they survive in the golf course setting.

"Natural environmental conditions we are concerned with include temperature extremes, moisture extremes, disease and traffic," says Engelke, "and to help the turf withstand those conditions, we manipulate the environment to compensate for the biological deficiencies of the cultivar.

Mowing heights are tricky. If they're too high, stressed roots have more turf to support. ▼

Large fans help circulate air around greens surrounded by many trees. ▼



Engelke's heat-stress tips:

1. Use adapted, heat-resistant cultivars.
2. Maintain good soil/water ratio.
3. Promote deep, extensive rooting.
4. Provide adequate drainage.
5. Avoid excessively saturated soil.
6. Maintain proper mowing height.
7. Pull soil profiles often to view rootzone depth.
8. Flush greens periodically.
9. Use Toro Hydroject on dry greens, NOT on wet greens.
10. Try using star tines on your aerator. They give turf about 30% more surface area in which to lose moisture. With 3/8-inch diameter tines, you can actually dry a green out in 24 to 36 hours, Engelke says.

—T.M.

"The attitude has developed that there is a specific way we have to manage bentgrasses. We have to get off of that a little bit. Syringing is an example. That process cools the plant but it's just one of many cultural practices.

"Your management scheme should be to manage to the weakness of the grass, and take advantage of the strengths," says Engelke.

"Turf variety is important, but management is the key."

Syringing in high temperatures, for example, creates humidity in the turf crown. The high temperature, high humidity and fertilizer combine to create a perfect environment for disease, Engelke explains.

"Water management can be a wonderful tool," agrees Engelke. "We just tend to use 'a little bit of water' a lot!"

There are ways to help the plant to *cool itself*, and thereby cut back on the "environmental manipulation." One solution is to aerify rather than syringe.

Summer aerification creates large pores for water and oxygen circulation in the rootzone, the most important area of the turf.

Lost any greens collars lately? Was it after you raised the mowing height? That's because as soil temperature rises in hot weather, root growth stops.

"So if you raise the height of cut in the summer, you're taxing roots that are already weakened by heat." □