

**T**he use of the word “fundamental” permeates our society, from our financial markets to sports. When associated with a downturn like in financials, market fundamentals might be cash flow or asset levels as they correlate to a company’s share price. Losing in sports is often associated with a lack of fundamentals, such as lousy tackling and blocking in football or a bad grip and stance in golf.

The bottom line: When things go wrong or you are losing, it’s because you’ve neglected the fundamentals.

So what are the fundamentals of turfgrass management? Actually, I’m not really sure what encompasses all the fundamentals. However, that won’t stop me from discussing one basic plant fundamental that can be routine, boring and even easy to dismiss. That fundamental — plant classification — is a subject that I don’t really find very interesting to teach. And my students might not find it very interesting to learn. But I teach it, and they learn it because it’s important.

This basic fundamental can have vital consequences in turfgrass management. Plant classification is the morphological and anatomical description that separates turfgrass plants into — and I am not listing all the pertinent classes — family, subfamily, tribe, genera and species. Most of us are familiar and use genera such as *Poa annua* and species such as *pratensis*. Subfamily and tribe are something we might memorize for a test and then forget. But it is the three subfamilies known as *Pooideae*, *Panicoideae* and *Chloridoideae* on which I will focus.

Cool-season turfgrasses fall in tribes within the subfamily *Pooideae*, while warm-season turfgrasses fall either in *Panicoideae* or *Chloridoideae*. Warm-season turfgrasses that fall within the *Panicoideae* (*Paniceae* or *Andropogoneae* tribe) are in general adapted to warm and wet conditions. Seashore paspalum falls in this group. The *Chloridoideae* subfamily (*Chlorideae* or *Zoysieae* tribe) are generally adapted to warm and dry conditions. Bermudagrass falls in this group.

## It’s Fundamental, But It’s Vital

BY KARL DANNEBERGER



PROPER PLANT  
CLASSIFICATION  
MIGHT BE A BORING  
SUBJECT, BUT IT’S  
INTEGRAL TO  
TURFGRASS  
MANAGEMENT

From this rather general description at the subfamily level, the competitiveness of seashore paspalum and bermudagrass can be predicted. In hot, dry environments (such as the desert), establishing seashore paspalum because of poor irrigation water quality would initially be desirable. However, bermudagrass, which is more adapted to the climatic conditions, would become a major competitor or weed in the turf over time. Conversely, seashore paspalum would have an advantage over bermudagrass in a warm, wet environment.

Granted, we are just looking at one fundamental. In golf course management, we have a number of tools available to us to manage turf in the most inhospitable environments. We are able to reduce competition through pesticides such as selective herbicides, manipulate the system through cultural programs and state-of-the-art technical equipment, and select for superior species through breeding. In many ways, golf course superintendents have the ability to pound a square peg into a round hole. And that’s a credit to the profession.

Yet, over time and in a situation where the competitor to a certain turfgrass can’t be removed (for example, no herbicide is available to selectively remove bermudagrass from seashore paspalum), the outcome in part is predicated on plant classification.

Yes, the topic might be mundane, but plant classification can be a guide to the ultimate outcome in specie competition.

That’s why the topic is so important.

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