Q&A

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Questions?

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Polystand vs. monostand

What is wrong with a polystand of bermudagrass on an athletic field?
North Carolina

This was a question I was asked while standing in the back of a group while touring an athletic field complex. The field manager had just said, "As you can see we manage a polystand of bermudagrass. I like the fact that we have a polystand, I believe people have overemphasized having a monostand." Then someone whispered that question in my ear.

Let's start by defining "polystand." It is an area, in this case an athletic field, made up of two or more cultivars and/or species. A bermudagrass polystand is typically characterized as having a finer textured hybrid bermudagrass cultivar with patches of a coarse-textured common-type of bermudagrass.

The field we were looking at when this topic was discussed happened to be a field originally planted with a coarse textured bermudagrass that had large patches of a slightly finer-textured contaminant. This situation is more commonly seen on old bermudagrass golf greens that have mutated over the years than on athletic fields. For taller-mowed turf mutations are very rare. The situation is almost always caused by contamination.

Turf managers often plant cool-season grasses in polystands to increase the genetic diversity. This helps to protect the overall turf area from damage caused by diseases, insects, and various environmental stresses. In some cases these are called turf communities. With multiple turfgrass cultivars/species in the community, if some plants are more susceptible to damaged by a stress, then the community still survives and the more resistant plants may grow to take the place of the dead or damaged plants

Polystands work well with many cool-season turfgrasses because they have compatibility—similar leaf texture, growth habit, growth rate, and color.

Different cultivars of warm-season species are typically competitive with each other. Their growth rate and leaf texture are often distinctly different. So they begin to segregate in patches. The spread of each is dependent on which is under the least stress in the current situation. For instance, if one is more drought-tolerant then it will out-compete the other grasses during dry times. Under severe drought, it may be the only grass that persists such that when water is more plentiful it quickly responds and dominates with area. Often different strains of grass will green-up in the spring at different rates. So this gives the early-greening grass a competitive advantage until the other grasses green-up.

So, is this bad? In my opinion, yes it can be bad but not necessarily intolerable. I have seen fields that are a patchwork of lighter and darker colored bermudagrasses, but the grasses seem to have similar textures and growth rates. In this case the field may play consistent for much of the time so a baseball bounce or a player's footing is predictable by the athlete. Also, in some cases a plant growth regulator can be applied to a polystand that may even out the growth rate of two dissimilar grasses allowing for a uniform height, although the color difference may remain.

But, if a field is not consistent in terms of density during the playing season, a polystand is undesirable. I want to emphasis "during the season" because some polystands may be less manageable during part of the year, but not cause an issue during the season. One of the ways they can be managed to this effect is by overseeding. I have seen a number of polystand bermudagrass baseball fields in the summer, but come fall, winter, and spring they have a nice covering of perennial ryegrass (a temporary polystand) and look and play very consistent. The bermudagrass is just holding the soil in place 6 months out of the year until the ryegrass is planted for a playing surface. In this case, a bermudagrass polystand (and the warm + cool-season polystand) can be tolerated because it is not disrupting the game.

On the other hand, if you are playing on non-overseeded turf and you have a polystand that results in tight bermudagrass in some areas and open canopy bermudagrass in other, then traction differences may influence the game. If one of the bermudagrasses is much more susceptible to a stress and dies during the season, the patchiness may even result in a safety issue. So, generally a monostand is preferred over a polystand.

To go back to the question, what is wrong with a polystand? If it works in your situation, nothing is wrong with them. If it does not work for you, everything is wrong with them. But I know very few sports field managers that grow bermudagrass that would desire a polystand. Most cannot stand them and will seek every means possible to prevent from having one. ■