

## CULTIVAR SELECTION FOR SPORTS TURF

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Many people assume that *wear tolerance* is the one and only factor to consider when selecting grasses for sports turf. While wear tolerance is important, it is certainly not the only factor that should be explored when seeking great sports grasses – especially if upkeep costs are going to be a concern.

*Sustainability* is perhaps a better concept for sports turf than wear tolerance. Often, athletic fields are not watered and fertilized as often as they should be. Perhaps they're constructed from compacted clay. The ability to *sustain* a turf over the long haul is a better way of looking at the situation. Many factors contribute to a grass's sustainability, including drought responses, lateral filling, cool-weather (fall/spring) liveliness, compaction tolerance, sod knitting, and freedom from pests.

When choosing grasses for sports applications, one mistake a buyer might make is to seek out the lowest priced grass seed. Bad strategy! Paying just a few pennies more for desirable seed will save water, fertilizer, and pesticides over the life of the turf.

In the past, "common" varieties were promoted for lower maintenance turf sites. Unfortunately, common varieties lack performance features necessary for enduring the day-to-day pounding of sports fields. They may form an acceptable playing surface the first year, but in the long term they won't sustain.

### Adapted Grasses for Michigan Sports Fields

Michigan sports managers have a number of choices when grassing a field. The only exception might be in the Upper Peninsula area, where the choices are limited to the more winterhardy types.

The rest of the state, however, has several grassing options. For example, if a field is to be unirrigated, then an emphasis should be placed on drought tolerant grasses. Before settling on a good variety though, it's important to examine the strengths and weaknesses of the four species choices:

#### Kentucky bluegrass

Most sports fields in Michigan older than perhaps 1980 are bluegrass fields. That's because, before that time, grassing options were limited. Kentucky bluegrass is still a good choice for sports fields throughout the state, especially when using the newer, more pest-resistant cultivars. Winter injury on bluegrass is rare, even in the upper peninsula (although any grass can be injured by water ponding or ice sheets). Kentucky bluegrass has the advantage that it spreads laterally by underground rhizomes, filling in worn spots all by itself. Aggressive bluegrasses, like 'Limousine' or 'Absolute,' provide a high shoot density that wards against wear. Bluegrass thatches more readily than other grasses, but thatching can be overcome by regular core aeration or even normal wear and play.

#### Perennial ryegrass

Perennial ryegrass has become the "Band-Aid" grass of the sports industry. Ryegrass overseeds more easily than any other grass, making it invaluable for filling tears and ruts between games. Ryegrass, however, is a risky proposition when planted alone (i.e., planted by itself with no other grasses mixed in). There are two reasons: (1) Throughout most of Michigan, ryegrass fields will experience some winter damage every 5 to 10 years. Sometimes it's minor. Other times, it can take out entire fields. (2) Gray leaf spot has emerged as a major pest of perennial ryegrass, particularly turf at sports cutting heights. Plant breeding has improved

the cutability, quality, color, and pest resistance of ryegrass but it has done nothing (yet) to improve its winterhardiness or gray leaf spot resistance. I recommend that ryegrass *always* be used in mixtures with Kentucky bluegrass in sports fields in this area.

### **Fine fescue**

Fine fescue is *not* the ideal sports grass. Nonetheless, you still see athletic fields planted to it throughout the North. Why? Red fescue has the lowest seed price of any turfgrass. Where price is a factor, budget-pinching decision-makers will usually go with red fescue. Other times, people seek out fine fescue for its soft, luxurious texture. They envision their children falling down on cushioned fields of soft grass. In reality, fine fescue doesn't withstand constant wear and gives way to hard dirt. Recent breeding advances have opened up new species possibilities, in addition to the traditional red fescues: Hard and sheep fescue provide improvements in summer performance over red fescue.

### **Tall fescue**

Tall fescue is not a new choice for Midwestern fields – there has been tons of common K-31 tall fescue seed harvested in Missouri for generations, much of it planted as turf. What's new is breeding improvements in tall fescue aimed just at turf. K-31 is still used on many fields, favored only for its low seed price. Newer cultivars produce a turf that's more than twice as dense. Slower vertical growth (=less mowing!), less stemminess, better cutting, and a more attractive appearance – reminiscent of Kentucky bluegrass – are characteristics of the new fescues. Still, tall fescue is a risky winter proposition in Michigan, just as with perennial ryegrass. Therefore, plant an insurance crop: 80% tall fescue with 20% Kentucky bluegrass.

*Editor's note:* Dr. Brede included several tables with valuable cultivar information. However, these were not amenable to the process of making this document. In an effort to assist the reader in the pursuit of information regarding turfgrass cultivar usage on athletic fields in the state of Michigan, we offer the following website address: <http://www.msu.edu/user/karcherd/turflinks>  
Links to websites with information pertaining to various aspects of turf management are available here, including the National Turfgrass Evaluation Program (NTEP).