



PENN STATE

CENTER FOR SPORTS SURFACE RESEARCH

From the Field: Seeding for success

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Welcome to From the Field - A Guide to Athletic Field Safety and Care.

Throughout this series, we will focus on a sometimes overlooked but critical component affecting the safety and performance for athletes of all ages – the playing surface.

Our goal is to provide you with simple, helpful tips about playing conditions that maximize both safety and performance.

As we turn the page on summer and head into fall, it is finally time for some football.

Hopefully, your season is off to a great start and you have a couple of games in the win column. With some games in the books, there is a good chance that your field may not look as good as it did just a few short weeks ago.

During the course of the football season, the wear and tear of games and practices can significantly wear out your field.

Heavy-use areas, such as the center of the field, often wear out quickly and without proper maintenance can be reduced to nearly bare ground by the end of the season.

However, with proper to in-season field care, you can maintain the turf on your field better, creating a safer, more consistent playing surface.

The key is to get started now. Don't wait until your field is significantly worn out to take action.

The No. 1 maintenance practice during the season is to routinely spread seed onto your field.

Often referred to as overseeding, spreading seed on athletic fields is different than seeding your home lawn. Instead of seeding one time with a relatively light amount of seed like you would do a residential lawn, proper overseeding of a football field requires applying higher rates of seed on a frequent basis.

The goal of overseeding is for newly germinating turf plants to take the place of plants that have been worn away or ripped out during play.

With routine seeding throughout the season, you are creating a seed bank. Ideally, it is a constant cycle – as plants are worn out, new plants are ready to take their place.

What type of seed should you use?

For fields in the northern part of the country that contain Kentucky bluegrass, perennial ryegrass or tall fescue (or any combination of these), you will have the most success using 100 percent perennial ryegrass, which offers several advantages over both Kentucky bluegrass and tall fescue for in-season seeding.

First is speed. Perennial ryegrass germinates in five to seven days and grows quickly after germinating. Germination and maturation time for both Kentucky bluegrass and tall fescue is much slower.

Also, perennial ryegrass is less expensive.

You often will see blends of Kentucky bluegrass and perennial ryegrass, but for the best bang for your buck, stick with 100 percent perennial ryegrass.

As for selecting the cultivar of perennial ryegrass to use, visit www.ntep.org and select the latest perennial ryegrass test date. The National Turfgrass Evaluation Program consists of turfgrass cultivar evaluations conducted at universities throughout the United States and Canada.

When looking at the perennial ryegrass data for the NTEP test site closest to your location, don't get hung up selecting the cultivar at the top of the list. Pick the cheapest cultivar in the top two-thirds of the list.

Quality is important, but so is quantity, and if you can pick a good cultivar that is inexpensive, this will allow you to buy more seed.

How much seed should you use?

A lot!

The more seed you put down on your field, the richer your seed bank will be, which ultimately means more turf coverage.

Of course, there is an economic side to this question as well. As a general rule, if you can apply between 20 and 30 pounds of perennial ryegrass per 1,000 square feet during the course of the season, you will see excellent results without too much strain on your budget.

That is a lot of seed. The commonly recommended seeding rate for planting a perennial ryegrass lawn is four to five pounds of seed per 1,000 square feet.

Here's the good news. You do not need to spread seed at that rate across the entire field. Perhaps you need this high seeding rate only on the high-wear areas between the hash marks and between the 20-yard lines.

On a high school football field, this area is roughly 10,000 square feet. If you are going with the 30 pounds of seed of 1,000 square feet rate, you would need 300 pounds of seed for the area between the hash marks and between the 20 yard lines.

At an approximate price of \$1.60 per pound of seed, the cost for 300 pounds is \$480.

Outside of that high-use area, a lower seeding rate may be sufficient. There is no rule that you need to treat all areas of the field the same way.

If soccer and lacrosse are also played on the field, goal mouths are notoriously worn out and should be routinely overseeded.

So, a ballpark cost estimate for the total amount of seed needed for a heavily-used field is approximately \$600.

When is the proper time to overseed?

The answer to this question is really any time you can get seed onto your field.

Remember, though, it is best to start seeding at the beginning of the season – even before the turf looks like it is getting worn out. You are trying to create a seed bank that is ready to spring into action as soon as the existing turf begins to thin.

Seeding should take place after each game – or twice per week if the field is used for multiple games throughout the week. That may seem excessive, but fields benefit most from frequent seeding. You can even seed before a game to allow the players to cleat the seed into the field.

In the NFL, many groundskeepers seed both before and after each game.

How to spread the seed

You don't need any fancy equipment to overseed your field. A standard rotary spreader works well.

Overseeding recommendations

- Use perennial ryegrass for in-season overseeding (100 percent perennial ryegrass – do not blend with Kentucky bluegrass and/or tall fescue)
- Apply 20 to 30 pounds of seed per 1,000 square feet during the course of the season – this rate does not need to be used over the entire field. Focus on the high-use areas, such as between the hash marks.
- Seed after each game or more if multiple games are played throughout the week.
- Apply the majority of seed early in the season – if you are putting down a total of 30 pounds of seed per 1,000 square feet between the hash marks, apply 20 pounds during the first several weeks of the season and then apply approximately two pounds per 1,000 thousand square feet at regular intervals for the remainder of the season.

Overseeding bermudagrass football fields

Overseeding on bermudagrass football fields, which are common in the warmer areas of the United States, is a common field maintenance practice. The basic idea is the same, but it is typically done for a different reason.

Bermudagrass is an excellent grass for football fields and even as it goes dormant and brown late in the fall, it still commonly provides a good, wear-resistant playing surface.

So, instead of overseeding to promote turf coverage, overseeding is typically done for green color late into the season. For heavily-used fields, it also serves to maintain turf coverage as the bermudagrass begins to wear out.

Just as with football fields in the north, bermudagrass fields are commonly overseeded with perennial ryegrass. The timing of overseeding depends your climate and the seeding rate is typically 10 to 15 pounds per 1,000 square feet.

Overseeding bermudagrass football fields comes with some disadvantages. Most notably, the ryegrass must be removed either chemically or mechanically the following spring, or bermudagrass growth will be stunted and the field will be weak for the following season.

Some field managers use green paint to maintain green color throughout the season. This is a practice that has also been adopted by some golf courses in the South during the winter because it is less expensive than overseeding, and bermudagrass growth is not stunted in the spring. However, it can be difficult to find paint that has a natural green color, and certain paints can stain uniforms.

Traction database update

In our first From the Field column focusing on traction, we noted that we that were in the process of compiling a database containing the traction values of various shoes.

The database, which includes traction values of 30 different shoes on Kentucky bluegrass, bermudagrass and FieldTurf, is now available and can be accessed [here](#).