



PENN STATE

CENTER FOR SPORTS SURFACE RESEARCH

From the Field: Spring Field Care is Key for Season-Long 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.

For many, this winter has proven to be very cold and snowy. Several sub-zero arctic outbreaks have left many athletic field managers anxious to see if their turf survived the extreme cold.

Fortunately, winter is slowly coming to a close and spring's warmer temperatures will once again kick start the turf growing season.

While the football season may seem like a long way off, proper care of your field beginning in the spring helps maximize safety and playability in the fall.

There are several important steps to successful spring field care.

The first is to identify areas that will need to be repaired. On football fields, these are typically the area between the hash marks and the bench areas. Get an estimate of the square footage that needs to be repaired so that you can be sure to have enough seed and/or sod.

Early spring is also a great time to have your soil tested – especially if you did not have it tested last year. A soil test will give you important information about how to fertilize your field in the months to come.

Cool-Season Grasses – Kentucky Bluegrass, Perennial Ryegrass, and Tall Fescue

For cool-season grasses, active growth begins as soil temperatures consistently warm into the 50's (°F). With the warm spring temperatures comes a flush of turf growth.

Mowing

Once the grass starts growing, be ready to mow – and mow often. It is one of the best things you can do for the turf. Remember, you never want to remove more than 1/3 of the length of the leaf

blade with each mowing. During the spring growth flush, this may mean mowing at least twice per week.

Otherwise, you run the risk of leaving large clumps behind after mowing and injuring the turf.

Fertilizing

Spring is also a good time to fertilize. Applying fertilizer in the spring helps recovery from fall damage. It is best to wait until mid to late spring to fertilize – after the initial growth flush of early spring has passed.

Fertilizers marketed for spring-time use may also include a pre-emergence herbicide (crabgrass preventer). While these fertilizer-herbicide combinations are useful in many circumstances, they sometimes do not fit into an athletic field maintenance program.

In almost all cases, crabgrass preventers not only prevent crabgrass from germinating, but also desirable turf seed from germinating. For example, if you use one of these products and also overseed damaged areas with perennial ryegrass, the perennial ryegrass seed will not germinate.

A quick look at the label of these products shows that grass seed should not be planted for at least four months after application.

If you have a field with minimal bare areas, good turfgrass coverage, and will not be heavily used in the spring and summer, a crabgrass preventer may be beneficial.

However, if your field requires significant repair using overseeding and/or it is heavily used in the spring and summer, it is likely best to not use a crabgrass preventer.

It is important to aggressively overseed thin and bare areas to crowd out germinating crabgrass. Any crabgrass that does germinate can be controlled with post-emergence herbicides. Additional information can be found [here](#).

Aerating

Spring is also an excellent time for aeration. Aeration, followed by overseeding and fertilizing, maximizes field recovery from fall damage.

One challenge of spring aeration is wet soils. Springtime rains can often result in soggy field conditions. It is best to wait until the soil is no longer muddy before aerating. If you can press your thumb into the soil and see your thumbprint, it is too wet to aerate. More information about aerating is available [here](#).

Bermudagrass

Compared to cool-season grasses, bermudagrass needs warmer temperatures to green-up in the spring. Green-up begins when soil temperatures reach 65° F and nighttime air temperatures remain above 60° F.

Mowing

Once the bermudagrass has greened-up and is growing, it is time to start mowing. Unlike the cool-season grasses, there is no spring flush of growth. Bermudagrass takes its time waking up with its highest growth rate not occurring until the summer months.

Fertilizing

It is important to not push bermudagrass growth too early in the spring. While you may be tempted to fertilize at the first sign of green-up, promoting growth early in the season can lead to problems later in the season.

If warm weather is interrupted by freezing temperatures, the bermudagrass can be set back and damaged. If fertilizer has been applied, the damage potential is increased. Fertilization should be delayed until after the potential for freezing temperatures has passed.

Aerating

Just like with fertilization, it is best to wait until bermudagrass is actively growing during the summer months before aerating or performing any other cultural practices.

Removing Overseeded Grass

Fall overseeding with perennial ryegrass provides green color during bermudagrass dormancy; however, the overseeded grass can be detrimental to bermudagrass in the spring. A general rule of thumb is that bermudagrass needs 100 days of competition-free free growth.

If the overseeded grass is allowed to persist, the bermudagrass will become thin and not provide ideal playing conditions later in the year.

Field managers often use herbicides that are effective on cool-season grasses but do not injure bermudagrass.

In the past, field managers would transition back to bermudagrass by lowering the mowing height, timely fertilizer applications, and by allowing the heat of the summer to kill the overseeded turf.

This technique is typically ineffective as today's cool-season grasses have improved heat tolerance and often do not succumb to hot temperatures. In most cases, only the use of transition herbicides provide the overseeded grass control required for proper bermudagrass growth.

Yearly Football Field Maintenance Calendar

As you prepare for the growing season, it is a good idea to come up with a plan for the year. The links below outline a year-long field maintenance plan in calendar view.

[Cool-Season Grasses Maintenance Calendar](#) (Kentucky bluegrass, perennial ryegrass, tall fescue)

[Bermudagrass Maintenance Calendar](#)