

SPORTS TURF TRAFFIC - - HOW MUCH IS TOO MUCH? - -

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How much play should be allowed on a game field, or even a practice field? There is **no definitive answer** to that question because field wear is determined by the size and intensity of the athletes by turf density and regrowth rate, and by the soil moisture at the time that traffic is imposed. Schools are facing increasing legal questions and liability regarding injuries associated with poorly designed, constructed or maintained facilities. To have relatively high quality and safe fields, you certainly need to limit the amount of play, have game and practice fields dedicated to one sport only, and have a turf maintenance program that promotes regrowth and turf repair.

There is **no rule-of-thumb** concerning the number of games that can be played on a field. Some years, when the fall playing season is relatively dry, we can get by with 30 to 50 events (games, practices, band practices and performances) without much turf damage. For most years, however, pre-game or pre-practice rainfall occurs. It takes only one extremely wet game to destroy a great field! Also, in most years, once the field gets very wet during the fall, and especially after the grass quits growing, the soil stays wet and turf under traffic declines rapidly.

Obviously, the more traffic you put on the field, the faster the turf declines. Football tends to cause extreme wear between the 20's and , and soccer wears it out between the 20's and goal mouths. The marching band is also extremely hard on the field because they tend to march along the same lines all the time, even for minor practices. Additionally, band members often execute spinning turns in exactly the same spot repeatedly. Smaller kids who are involved in football and soccer do not cause a lot of serious turf damage, but all traffic adds significantly to the total damage.

You can get some reduction in traffic damage by doing the following:

1. Restrict use when soil is extremely wet.
2. Restrict use when soil is very dry and turf is wilting.
3. Always rotate heavy play areas during practices.
4. On game fields, restrict all practices to a minimum.
5. Restrict use when grass is dormant.
6. Restrict use until new grass is mature. This generally requires four to eight months post-establishment.
7. Prohibit use when surface is thawing.
8. Prohibit all unofficial play, allowing no pick-up games.
9. During heavy use season, mow grass as tall as possible.
10. Use tarps on bench areas to reduce severe wear by coaches and team members.

NATIVE SOIL VS. SAND-BASED FIELDS

In most situations, properly maintained native soil fields will withstand traffic as well or better than fields with sand modification and internal drainage systems. The main advantage of

sand-based fields is they will withstand much more use in heavy rain situations. If a native soil field can be rain-tarped for a few days prior to games or practices, or if the game or practice can be postponed until the field is drier, then native soil fields are protected from heavy damage.

BERMUDAGRASS FIELDS

Bermudagrass forms a tight-knit, resilient playing surface with lots of lateral stems (rhizomes and stolons) growing on or near the surface. Bermudagrass wear tolerance is great during the summer and early fall, but it can be easily overused in late fall or early spring when the grass is dormant (brown). If the above-ground foliage is worn off during heavy fall play however, it is not likely to recuperate in the spring. When intensive field use is expected, mow as high as possible. Bermuda mowed at two inches has much greater wear tolerance than when mowed at ½ inch.

You can increase spring recovery of bermuda somewhat by covering the field with straw or a synthetic cover during the winter, especially between the hash-marks. This is most important for the first year after establishment but it is also very important every year in which our winter is very cold (with little snow cover). Since we cannot predict winter weather, it is preferable to always cover the field.

With moderate field use and a minor amount of damage between the hash-marks, you can repair the field in May or early June by hand-transplanting sprigs or bermuda sod from adjacent areas. If most of the field is destroyed however, you will likely need to hire a company to re-plant the field at a cost of about \$4000. This is typical for schools that place no limits upon play in the fall and/or spring. We have some new bermudas that can be seeded in May or June at a much reduced cost, but some of these seeded varieties are not as winter hardy and they do not have the playing density of the vegetative varieties like Quickstand and Midlawn. Though these seeded varieties may never make a permanent turf in heavy traffic areas, if seeded in late May/June, quality turf can be developed before late summer play. With little change in appearance, these seeded varieties can be seeded into established vegetative varieties.

TALL FESCUE/PERENNIAL RYEGRASS FIELDS

These cool season grasses do not have good summer wear tolerance but if they are fertilized with nitrogen during the fall playing season and mowed relatively high, they will continue to resist wear during the entire playing season. Because these are bunch-grasses, they do not form a tight-knit, resilient sod. When tall fescue and perennial ryegrass fields become worn and are used when soil is wet, the surface is easily disrupted, roots are dislodged, and mud oozes toward the surface.

Spring use of tall fescue/perennial ryegrass fields is much superior to bermuda since the cool season grasses begin to grow in March. If these fields are used in both the fall and spring however, reseeding/renovation cannot be accomplished at the same time the field is being used, i.e., the traffic will kill the germinating grass seedlings. It is very difficult to reseed cool-season grasses in late May/early June and get establishment needed for fall play. This is one reason that bermudagrass is often chosen over tall fescue/perennial ryegrass because bermudagrass needs hot weather and can be renovated during late May/early June when fields are less likely to be used.