

What's the limit on high seeding rates?

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Most of my winter turf conference season has been spent talking about higher than normal seeding rates as a standard procedure for intense traffic areas of athletic fields. Several of you have asked for this in writing so here are a few guidelines from 4 years of research trials that are about to be submitted for research publication.

It is important to understand how we did the trial in order for you to develop your seeding strategy. First, we applied all of the seed at the beginning of the fall football season near the first of September (we did a separate study comparing a one-time beginning of the season seeding vs. seeding the same total rate over a five-game season). As it turns out, the single seeding in September provided more turf cover at the end of the playing season than the multiple seedings throughout the season.

I would never stop anyone from seeding throughout the season or before each game to fill in divots and worn areas, but the take home message here is do not miss that important seeding window from mid-August through early September where cool season turf is used. Even if your field has respectable turf cover at the beginning of the season, the idea is to seed early and have the seed establishing as the mature grass begins to decline.

When seeding at this time of year use a solid tine aerifier or non-aggressive seeder to punch seed into the ground; avoid equipment that damages or loosens the existing turf. Secondly, in our study seed was applied to either a bare soil or a turf area that was killed with Round-up to simulate the worst case scenario of a worn field; hopefully you would be starting with at least some turf cover.

The most important factor in our study was that traffic and seeding both occurred September 1 and traffic continued weekly until November 14. Under these conditions some of the seed was pushed too deep in the ground for germination, some seed remained on the surface and never germinated, some seedlings succumbed to traffic, and some seed established and made plants that survived the autumn traffic season.

Given this type of attrition we roughly estimated that 50% (we are still studying this) of the seed applied

never makes a successful plant; it is no wonder that higher than normal seeding rates are needed before gains in turf cover are realized when seed is applied during traffic.

Traffic levels ranged from 2 to 20 games per week and seeding rates per 1000 square feet ranged from 1 to 45 pounds for Kentucky bluegrass, 5-120 pounds for tall fescue, and 5 to 200 pounds for perennial ryegrass. This pretty much covered all levels of possible traffic and seeding rates that ranged from normal to the absurd.

We used excessive rates to be sure that we could determine the seeding rate where no additional advantage was realized. This photo shows that increasing traffic level requires higher seeding rates to achieve more turf cover. The table can be used to budget how much seed you should apply to intense traffic during the playing season.



The intense traffic area of most football fields is usually only about 10,000-15,000 square feet. It is important to remember that the excessively high seeding rates recommended below should be

applied during periods of actual traffic. I suggest that you put at least half of your seasonal seed allotment out near the beginning of September. It has been my experience that the athletic field renovation rates will not cause too much seedling competition, however, the intense traffic seeding rates listed below may cause excessive and weak seedlings if all of the seed is allowed to germinate in a non-traffic situation.

Normal seeding rates are for ideal conditions when no play will occur for one year; those rose colored glasses just don't exist in many sports turf situations. When renovating a field where there is time for most of the seed to germinate and establish, but not necessarily enough time to mature and produce complete turf cover, you can double the normal seeding rates. Finally, if you are constantly battling thin turf and exposed soil then consider seeding very high rates during the traffic season. Dealing with intense traffic is a game of attrition and catch-up. Give it a try for a couple of seasons and if you don't see an increase in turf cover then sod may be your best solution. ■

Grass Species	Recommended Seeding Rate lbs/1000 sqft		
	Normal Conditions	Renovating Athletic Fields	During Intense Traffic
Kentucky bluegrass	1-1.5	3-5	5-8
Perennial ryegrass	7-9	10-20	60-90
Tall fescue	7-9	10-20	60-90