

Rolling revisited

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Q: *I am the head baseball coach at a Pennsylvania school. Our field has poor drainage and poor turf. I was rolling the field to make it safe for the players because it is so rough and bad bounces occur. Someone told me that at a University conference he was told to not roll the field because it will destroy roots, among other things. Could it be rolled then aerified? Is this true or is this just for perfect fields or ones that have good turf to work with? We are no longer able to roll the field and it is VERY unsafe for the kids with the bad hops we continue to get. I believe safety is first on baseball fields.*

– Concerned coach

Thanks for your e-mail. Sounds like your field is typical of a lot of fields I see. You do not say if you thought your poor drainage was due to the soil's characteristics or due to its hardness (or both). Also, what is causing the uneven surfaces/bad bounces? Is compaction a significant factor causing your poor turf?

If your field is being used a lot, then I would recommend aerification as often as possible to alleviate the compaction and improve its drainage characteristics. The amount of damage from rolling is dependent on a number of things: soil type, weight of roller, soil moisture when rolled, etc.

I did a quick search after starting this response and found that my colleague at Iowa State, Dr. Dave Minner, wrote in this space last year (September issue) on this very topic. He gave some information on weight and surface area of rollers. A summation statement of his article suggests that "under some circumstances rolling is a necessary and effective means of improving the playing surface of athletic fields." Perhaps the information provided in the University conference you mentioned was related to more specific situations that resulted in some turf rooting problems without considering playability issues.

To test my philosophical theory, earlier this week I asked several of my colleagues from around the country their opinions and experience with rolling. Everyone I talked to indicated they believe rolling athletic fields can be very beneficial in moderation. In fact one person reminded me that lightweight rollers are often used to replace a mowing on golf greens to smooth the surface and increase ball roll.



Rolling once per week has been done without any significant detriment to the green. Of course rolling can physically damage grass and can certainly increase soil bulk density. A higher bulk density translates into harder fields and reduced water infiltration. It sounds like you already have these problems, but it is still not a reason to eliminate rolling from your cultural practices, especially if you feel that it is making a difference in safety of your field. But do not rely on rolling alone.

With rolling, you will likely also need to increase your aerification to address compaction. Be careful to not roll so much that you cause above ground turf damage and use as light a weight of roller as you can that still provides some smoothing benefit.

How do you decide whether to roll, then aerify or aerify and then roll? Well, it depends on what you are trying achieve and what types of aerification and roller you have.

If your roller is very heavy and does not disperse its weight well, if you aerify and then roll you can really rut up a field. But if you roll and get the field so compact and then try to aerify you may effectively reduce your aerification depth and minimize the benefits of aerification. I have seen field managers use the aerify-then-roll sequence to get vehicle ruts out of fields. This sequence is very effective to remove the larger ruts, rolls, and dips. For more minor surface disruptions that may reduce field playability or if you have somewhat loose surface soil conditions, roll-then-aerify may be the better sequence.

If you have significant surface unevenness, you should also consider a sand topdressing and dragging program. Rolling alone should not be used to remove large lips and dips. If you are trying to remove large surface disruptions, you are probably relying on an excessively heavy roller. I would avoid using the roller on wet soils and during periods of time the turf is highly stressed. Develop an aerification program to address your hardness and infiltration issue that complements your rolling practices. Try to use topdressing and dragging for leveling the surface. Like most good things that can be bad for you in large quantities, practice rolling with moderation. And never feel bad for considering player safety when developing your maintenance practices. ■