

# IMPROVING SOIL HEALTH WITH COMPOST

**S**ports turf managers taking care of fields that have been built using very poor soils, or in some cases, sub-soil material, can improve soil health by amending it with organic matter. In an ideal world, organic matter would be incorporated into the top 4-6 inches of soil prior to grading, so that the seed or sod is growing in a healthy soil from the beginning. In some situations though, poor soils are seeded or sodded by contractors as part of a larger job (new school build, etc.) and the sports turf manager inherits a mature stand of grass that will not grow and quickly becomes infested with typical soil compaction indicator weeds like prostrate knotweed, clover and plantain. The soil is typically hard when dry and thus creates a very hard playing surface. When wet, the same soil turns quickly to mud and puddles form because the water infiltration rates are so low.

In these types of situations, an aggressive plan of soil cultivation (core aeration, shatter tine, verti-drain, etc.) coupled with organic matter incorporation/topdressing is vital to improving the quality/health of the soil.

Selecting a compost material for soil improvement requires some investigation and planning because not all composts are the same. Composts are made from a variety of sources such as manures, bio-solids, yard waste and spent mushroom compost. They should be regulated to make sure they contain no harmful bacteria (like *E. coli*) and they should be decomposed enough that the carbon:nitrogen ratio is not excessive (>30:1). They will also vary from one another in nutrient status, moisture content, odour and amount of soluble salts.

Because the purpose of improving poor soil with compost is to create air spaces and improve the drainage capability of the soil, composts used on athletic fields need to contain adequate organic matter (>30%) and have a bulking agent, like wood chips. The bulking agent eventually decomposes,



leaving large air spaces, as well as mixing with the poor soil to improve soil aggregation. The size of the bulking agent is important – pieces that are too large cause playability problems and they stay on the playing surface for a long time. If they are too small (<0.25 inch), they break down too readily and do not create large pore spaces.

Field managers can find compost suppliers via [www.FindaComposter.com](http://www.FindaComposter.com). To make sure that a compost is truly adequate for soil improvement, ask compost suppliers to have the compost material tested at a reputable turf lab and then the test results can be evaluated to make sure the material is going to truly improve the soil and not just cause an odour for a few days!

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## Editor's Note

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