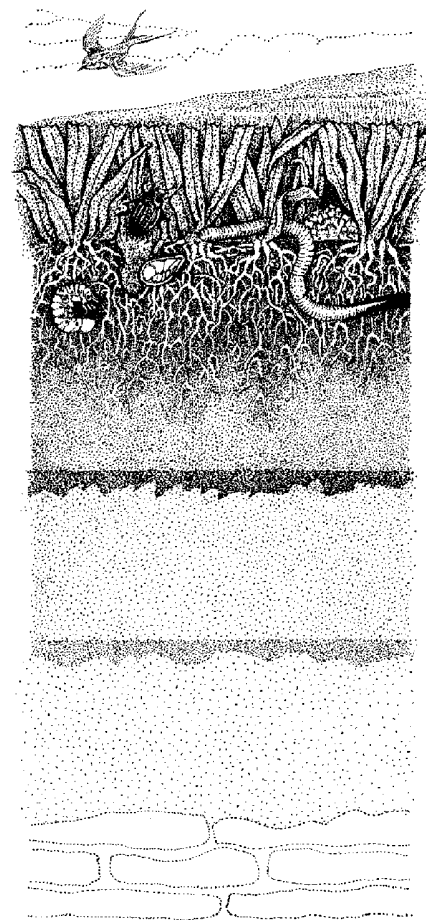


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The Art and Science of Turfgrass Soil Management

Fall is often a season when turfgrass managers have the time and opportunity to consider doing some important soil management techniques. Soil management includes the modification of both the chemical and physical properties of soil. Because turf problems related to soils are often considered “hidden” due to their below-ground nature, they are often misdiagnosed, ignored or forgotten. ■

Turfgrass symptoms of soil problems include the following:

- shallow but extensive root system
- little or no roots below 4"
- little or no top growth
- off-color, very chlorotic tissue
- easily wilted
- low density with weeds
- poor response to fertilization and soil-applied pesticides
- prolonged wet soil that limits recreational uses
- water easily runs off the turf surface.

Some sites may have all of the above symptoms while others may have just a few. Some symptoms may take a long time to show (like root growth) while other symptoms are quickly visible (top growth). Many other factors can cause the symptoms described above, making a definitive diagnosis nearly impossible. Thus, soil management often is considered an art more than a science. Turfgrass managers must understand and utilize more scientific principles to improve the art of soil management.

Managing Soil Physical Conditions

Most turfgrass sites have been disturbed, or at least changed from their natural state, as the result of construction where the natural order and state of soil layers (profile) has been rearranged by the bulldozer. Often construction debris may be buried in the disturbed soil, further affecting the ability of turfgrass plants to survive.

There are many sites, like residential lawns, where no soil physical management practices are used; whereas, there are sites like golf greens or intensively management sports fields that use every available soil physical management tool. The soil physical management tool box contains methods such as:

- Cultivation; coring, slicing, spiking, grooving, water and air injection, drilling, solid tine cultivation
- Amendments, either of a physical, chemical and biological nature

This Times

1. *The Art and Science of Turfgrass Soil Management*
2. *Short Cutts*
 - A note of passing
 - Emmons recognized
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3. *Scanning the Journals*
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