

Soil Health Fact Sheets – Ocean County

Corporate Lawn Conversion to Native Plants

USDA, Natural Resources Conservation Service - New Jersey

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What are “Corporate Lawns”?

The corporate lawn is a term used to describe large, traditionally mowed grass lawns common in association with corporate headquarters, office buildings, schools, governmental building complexes and shared open space in large residential developments. These areas are usually comprised of cool season, non-native grasses that require frequent inputs of water and fertilizer as well as regular weekly mowing throughout the spring summer and fall. Periodic applications of herbicides, fungicides and insecticides may also occur. Such inputs may result in an unhealthy soil condition that will require further inputs in order to maintain the attractive green lawn. Conversion of these areas to local native plants such as native grasses, wildflowers, shrubs and vines will provide for healthier soils and greatly enhanced local ecological functioning.

What is Soil?

Soil is a natural body comprised of solids (minerals and organic matter), liquid, and gases that occurs on the land surface. It consists of mineral particles of different sizes (sand, silt, and clay), organic matter, water, air, and numerous living organisms. Soil has biological, chemical, and physical properties. It is not an inert, lifeless medium but rather a living matrix of solid, liquid, and gas, with microorganisms, earthworms, fungi, bacteria, insects, living and decayed organic matter, water, air, and nutrients, all engaged in a biological and chemical give-and-take of energy and elements.

What is Soil Quality?

Soil Quality is simply how well soil does what we want it to do. More specifically, soil quality is the capacity of a specific kind of soil to function, within natural or managed ecosystems, to sustain plant and animal productivity, maintain or enhance water and air quality, and support human health and habitation. For areas in corporate lawns it may help foster healthy native plant populations that need little maintenance, or maintaining the soil resource for future generations. Soil Quality is the integration of the physical, chemical and biological properties of the soil.

How do large corporate lawns affect soil health?

- Infiltration and percolation may be decreased
- Erosion and sedimentation may increase off site
- Runoff and water retention are adversely effected
- Water quality may be degraded
- Soil temperatures increase
- Plant and wildlife species are usually stressed

Soil Quality will improve with conversion of corporate lawns to native plants.

Large, traditional mowed grass lawns common in association with corporate headquarters, office buildings, governmental building complexes and shared open space in large residential developments can negatively affect the long-term ability of soil to function. During building construction, land is usually cleared of native vegetation and may be left bare and unprotected for extended periods. The native topsoil can erode away or may sometimes be deliberately removed. Heavy equipment is driven over much of the soil, causing long-term deep compaction that reduces the ability of soil to absorb and hold water, and the ability of roots to penetrate through the soil. The layer of topsoil and sod placed on top of the compacted subsoil may be too thin to support healthy turf and landscape plants. Non-native cool season grasses commonly used include fescues, ryegrasses and bluegrasses that are heavily dependent upon water and fertilizer in order to maintain an attractive green look. The plants are not well adapted to local soil and climate conditions. The non-native plants do not contribute valuable organic matter that can be

utilized by native bacteria and fungi in the soil to sustain a functioning soil ecosystem.

Much of this damage can be prevented by preserving existing soil and vegetation if it is healthy (functioning well), limiting construction traffic to as small a portion of the development tract as possible, and ensuring adequate topsoil quality and depth.

Using native grasses such as switchgrass, broomsedge, Indian grass and other species can help maintain the natural soil ecosystem that was present before such conversion. These native plants are adapted to local soil pH, nutrient levels, soil moisture and weather conditions so they do not require large chemical inputs in order to thrive. Wildflowers such as butterfly milkweed, horse mint, violets, goldenrods and asters also are well adapted to local native soil conditions. These plants evolved with native soil fungi, bacteria and invertebrates and help maintain a healthy soil ecosystem. No excess water or nutrients, that may degrade local surface and subsurface water quality, need to be applied to maintain these native plant populations.

What should I expect?

Your lawn will look different. You will have clumps of tall native plants and even perhaps some small areas with bare exposed soils on the surface. You may see different flowers blooming throughout the spring, summer and fall. You will also have native pollinating insects, songbirds, reptiles, small mammals and a healthy ecosystem. Your lawn will thrive during hot summer periods without expensive inputs. Mowing can be reduced to one to two times annually, rather than one to two times each week!

Soil health will be improved with increased percolation and infiltration, organic matter levels will increase, pH and nutrient levels will be maintained at near optimum levels naturally, populations of beneficial insects will increase, local and migratory wildlife will use the lawn as habitat and costs of maintaining lawns will be significantly reduced.

Costs for conversion of large lawn areas to native meadows can be fairly expensive. However with reduced water and fertilizer inputs and reduce mowing costs up to 42% savings can be realized by 5 years after conversion and up to 80% cost savings after 20 years. Some suggestions and lists for native plants to use can be found in several different references including:

- *Native Plants List for Delaware, Southern NJ and Long Island, NY:* <http://www.plantnative.org/rpl-denjny.htm>

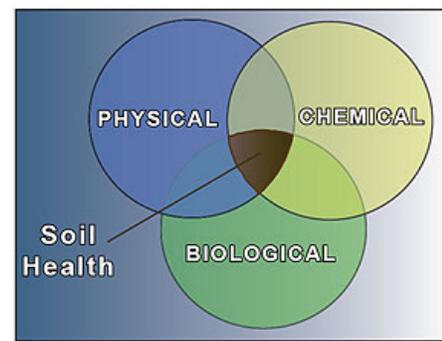
- *A Dozen Must Have Plants for Backyard Habitat* by NJ Audubon:
<http://www.njaudubon.org/SectionBackyardHabitat/ADozenMustHavePlantsforBackyardHabitat.aspx>
- NJ recommended plants by the Lady Bird Johnson Wildflower Center:
<http://www.wildflower.org/collections/collection.php?collection=NJ>
- *Native Pinelands Plants for the Landscape* – NJ Pinelands Commission:
http://www.pinelandsalliance.org/downloads/pinelandsalliance_68.pdf

Where can I get more information on Soil Health?

For additional information go to the following websites:

- www.soils.usda.gov/sqi
- www.soilhealth.org
- www.nj.nrcs.usda.gov

The full series of Soil Quality Information Sheets is available at <http://soils.usda.gov/sqi>



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