Common Issues with Urban Soils

Chemical Issues – residues of industrial chemicals can exist. Here is a list of common contaminants, however, this is not a complete list of all possible contaminants.

- Heavy metals: lead, arsenic, cadmium
- Organic contaminants
- Petroleum contaminants
- Nutrient overload

Test the soil for individual contaminants based on knowledge of historical land use. Each contaminant has unique properties and requires different precautions and remediation steps. A full environmental review tests the soil for a wide variety of contaminants but is expensive.

Biological Issues – healthy soil is alive and teaming with micro- and macro-organisms. Intense use of urban soils, along with chemical applications to kill pests, can cause a spiraling loss of diversity and biomass.

Request an organic matter test along with a routine soil test to learn more about the biological health of your soil. Organic matter is the foundation for the soil food chain that supports all micro- and macro-organisms, therefore a good indicator of biological potential.

Physical Issues – because of its frequent use and reuse, the physical structure of urban soils can be damaged, leading to compaction. Healthy soil will contain space for air and water leading to optimal drainage and root growth.[4] When soil does not contain space for air and water, rather it is pressed together, the soil is termed compacted. Compacted soils increase stormwater runoff and create a challenging environment for plant growth.[5] Signs of compaction are easily observed and usually do not require testing. Signs of compaction include hard, difficult-to-dig ground, and pooling water after rain.

Read more on each issue by viewing the other cards in this series.

Test

Soil test before you break ground on any garden project. Each potential soil issue may have specific concerns and/or remediation strategies.

For more information on how to take a soil sample and get it tested **see dirt.osu.edu**

For more information on chemical contaminants see *Brownfields and Urban Agriculture: Interim Guidelines for Sage Gardening Practices* by the US EPA.