

Biochar



What is Biochar?

Biochar is a specialty charcoal made from woody material, used as an amendment to improve soil quality. Charcoal has a long history of use for its ability to absorb and remove odors and toxins. When used as a soil amendment, it provides numerous benefits, including water and nutrient retention.

Rainbow Treecare has added biochar to our formulas for Tree Nutrition Fertilization and to our Root Enhancement System services to promote landscape resiliency and improve drought tolerance.

Adding Biochar Enhances Fertilization

Biochar particles have very large and absorbent surface areas, providing sites that water and nutrients can adhere to. This helps sandy soils hold more water, and opens up space in clay soils for root growth. Fertilizer applications are more efficiently used when combined with biochar, since the nutrients are held in place for tree roots to use rather than getting leached away by rainfall. The biochar surface is filled with water and nutrients during fertilization, natural rainfall and plant decomposition. The biochar acts as storage, holding that material until the plant roots need it.

Urban soils are far from optimum for healthy tree growth. Low organic matter is one of the main problems in urban soils. Compaction, pollution, and nutrient deficiencies are other drawbacks to soil in urban areas. The addition of biochar makes the soil friendlier for tree roots and other organisms that contribute to tree health.

Biochar Recycles Urban Wood Waste

To make biochar, woody materials are subjected to high temperatures with limited oxygen, resulting in a stabilized form of carbon. Biochar is different from ash, which is a by-product of complete combustion of woody material. Additions of ash to soil can create nutrient imbalances over time; additions of biochar improve soil characteristics with time.

Biochar helps combat climate change by removing carbon from the atmospheric cycle and by helping trees grow better. The carbon stored in biochar remains in the soil for centuries, preventing it from adding even more to the already high levels of carbon in our atmosphere.

Detailed information about the benefits of biochar is available from the Morton Arboretum Soil Science web page:
<https://climatetoolkit.org/tag/morton-arboretum/>



Biochar:

- Soil water holding capacity
- Soil fertility
- Micro-organisms
- Stable (Thousands of years)

Biochar Cycle

