

BIOCHAR

What is biochar?

Biochar is an OMRI listed soil amendment for organic gardens that will improve the quality of your soil for a long time. It is pure carbon, manufactured by a **carbon-neutral** process called **pyrolysis**. This takes waste organic material and burns it with very little oxygen. During pyrolysis, the organic material is converted to biochar.

Biochar is NOT the same as charcoal or wood ashes. It is a **completely stable form of carbon** that is black, highly porous, lightweight, fine-grained, and has a large surface area. That means it is very porous and offers a efficient place for microorganisms to live in your soil. It is approximately 70-83% carbon and the rest is made up of nitrogen, hydrogen, and oxygen.

What does carbon-neutral mean?

Biochar production actually *reduces* CO₂ in the atmosphere. In normal decomposition of organic matter either by composting or by natural decomposition, CO₂ is emitted into the atmosphere. In the process of making biochar, the unstable carbon in decaying plant material is converted into a STABLE form of carbon. Any energy or heat created during pyrolysis is captured and used as a form of clean energy to make more biochar.

Where did the idea come from?

The process is modeled after a 2000 year old Amazonian practice. Indigenous people of the Amazonian basin used this process to create **terra preta** (dark earth), areas of very rich, fertile soils.

What can we use biochar on?

Edible gardens, lawns, trees, flowers, and shrubs. In other words, all plantings!

Why should we use it in our organic gardening and landscaping?

- Enhance soil structure
- Increase water retention (therefore you will use less water in your landscape)
- Improve porosity and soil structure
- Regulate leaching of nitrogen and other nutrients
- Improve the microbial life in the soil
- Grow better, healthier plants
- Grow plants that are better able to handle climate stress
- Reduce fertilizer waste
- Reduce CO₂ in the atmosphere
- It is especially valuable when topsoil has been stripped away, degraded by constant use of chemicals, or otherwise damaged. Biochar helps restore soil health.

How is it applied?

Biochar works best if it is “charged”. Biochar absorbs water and nutrients into its many pores. It has a much more immediate effect on your soil health if you charge it first by mixing it with compost, worm castings, or premium organic topsoil. Moisten the mix. If you do not do this, the biochar will still work, but it will take longer to have an effect. Once biochar is applied, it does not need to be applied again. It is stable and remains in the soil for years and years.

Biochar products sold at Natureworks

- **Organic Mechanics Biochar Blend**- this is fully charged and ready to use. It contains biochar mixed with compost and worm castings, alfalfa and kelp meal, bone char (for phosphorus and calcium), zeolite and azomite minerals.
 - For containers, mix 10% Biochar Blend with Organic Mechanics Container Blend Soil.
 - For garden beds, one bag will cover 24 square feet.
- **Wakefield Biochar Soil Conditioner**- this is straight biochar that has not been mixed with any other materials.
- **Wakefield Biochar with Compost Blend**- This is a mixture of microbe-rich compost with mycorrhizal fungi and Premium Biochar Soil Conditioner for an optimal performance. It is fully charged and ready to use.

Biochar and Asian Jumping Worms (crazy snake worms)

Research is ongoing, but it is believed that adding biochar to soil and incorporating to a depth where the worms are located can help to kill adult worms.

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