Biochar Factsheet

Benefits

Applications in Horticulture & Agriculture

- Increases water use efficiency. Higher absorption (6x) versus perlite & vermiculite (3-4x).
- Replaces peat moss as a sustainable option.
- Holds nutrients & stabilizes both sandy & clay soils. Evidence of higher crop yields.
- A single application can be effective for several growing seasons.
- Augments compost nutrient/nitrogen values, accelerates compost process & reduces odors when blended at 5%-10% of volume.
- Sequesters carbon for 100 to thousands of years, qualifying for carbon credits.

What is Biochar?

Ancient Soil Regeneration Meets Modern Technology

Biochar is a highly porous, stable, carbon-rich material that is produced by thermochemically decomposing organic feedstock in the absence of oxygen. It's important to note that no burning or combustion takes place because of the absence of oxygen, meaning that a high percentage of the carbon in the biomass is converted to a soil-stable form. Once incorporated into the soil, carbon is stored and removed from the carbon cycle.

The use of biochar in agricultural applications dates back thousands of years. Solid archaeological evidence supports its use in the thriving agrarian Brazilian Amazon region—to amend the previously nutrient-poor soil— over 2000 years ago.

When the feedstock used in the biochar production process is a clean blend, such as that derived from New England forestry operations, the quality of the biochar is also very high. As a soil amendment, applied at 5-15% of total volume, biochar has been found to increase microbial activity and decrease water requirements across a wide range of soil and compost types.

Properties

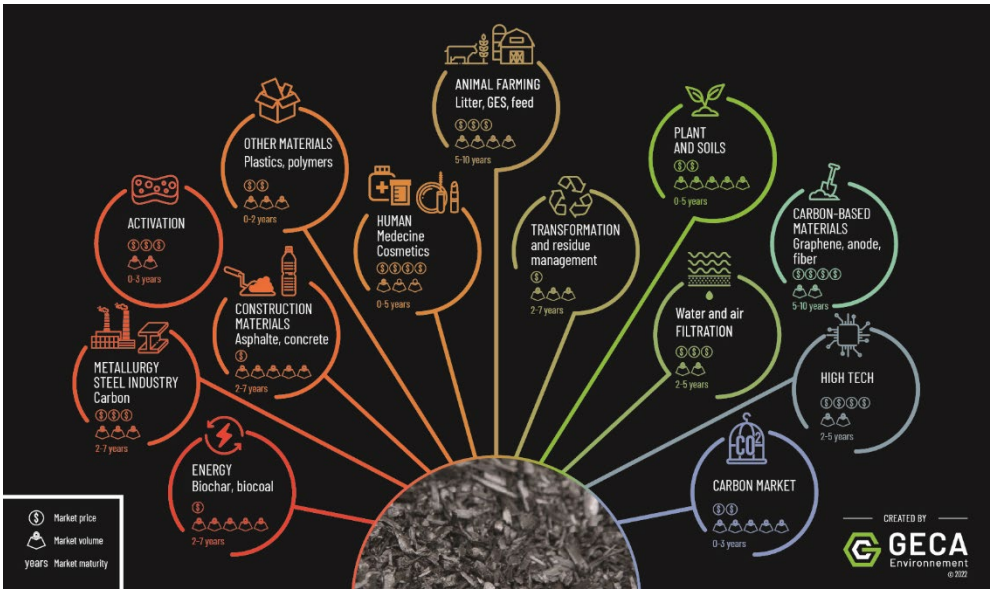
Biochar Made from Clean New England Wood Chips

- Feedstock will be an estimated 80/20 mix of NE hardwoods & pine.
- Locally-sourced feedstock tends to produce biochar that is more compatible with local soil properties, vs. feedstock sourced at a distance.
- Biochar particle size & other properties can be adjusted to fit a variety of applications.
- Biochar has proven its effectiveness as a soil amendment across a wide range of feedstocks, crops, climates, and soil conditions around the world.

Market Segments & Applications

As public awareness of biochar and its benefits grows, inventors are rapidly identifying and testing new biochar applications, from building and construction materials to land/water remediation and pharmaceutical products. If biochar—and its carbon–is expected to be sequestered for at least 100 years—as in road construction, pond remediation, and agriculture, credits for the sequestered carbon can be sold on voluntary carbon markets, where current demand for biochar-backed credits outstrips supply.

For horticultural and agricultural applications, discerning buyers are willing to pay a premium for biochar with third-party-verified PH/ash composition and surface area, produced from clean forestry industry feedstocks.



Outlook: Horticulture & Agriculture

Biochar is increasingly seen as a valuable soil amendment, particularly in areas of drought and poor soil conditions. Worldwide shortages and transportation costs for perlite and vermiculite, combined with a growing awareness of the environmental impact of peat moss harvesting, have all made biochar more attractive as an alternative, driving demand for additional field research and new “designer” blends.

Global demand for biochar has been growing exponentially over the past several years, and the United States is beginning to exhibit similar growth. Biochar is a carbon-negative product that can be produced and delivered locally, offering sustainable alternatives to incineration, reducing air and water pollution, and contributing to the circular economy.

Quonset Soil Solutions
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