

BIOCHAR VS. CHEMICAL FERTILIZER:

A Path to Sustainable Agriculture



ORBULO

Unleashes Nature to
Regenerate our Planet

Forewords:

Biochar is a **carbon-rich**, porous material produced through the pyrolysis of organic biomass, often used in agriculture and environmental applications for soil improvement and carbon sequestration. Carbon and its compounds serve as vital materials for industry **beyond energy sources**.

Biochar fundamentals:

Biochar production involves the **pyrolysis** of organic materials, such as wood or agricultural waste, in a low-oxygen environment, converting them into a stable form of carbon.

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In the delicate choreography of Mother Earth's sustainability, the choice between biochar and chemical fertilizers represents a pivotal step. Unlike the conventional approach that relies heavily on chemical inputs, biochar embraces the wisdom inherent in natural cycles.

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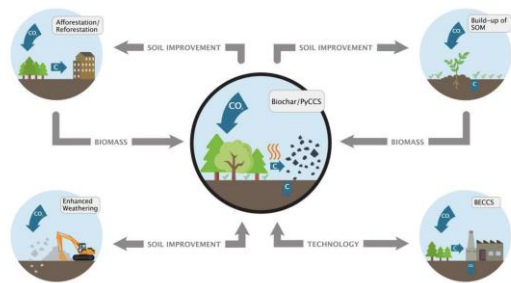
Just as Holistic Management mirrors life-sustaining rhythms, biochar nourishes the soil as a living entity, transcending the mere concept of dirt. Its application fosters harmony by enriching the soil, promoting biodiversity, and contributing to the resilience of our planet—a graceful, sustainable dance echoing the intricate balance of nature.

Application benefits:

Guiding the development of carbon sinks involves diverse considerations. Prioritizing diversification, scalability, modularity, and rapid feasibility is crucial. It's essential to exploit local potential, ensure carbon-efficient use of biomass, protect ecosystems, and assess costs and added value.

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Short to medium-term solutions include afforestation/reforestation, biochar/PYCCS, and soil organic matter build-up, offering immediate benefits, cost-effectiveness, and positive ecological impacts. The focus should be **on creating a meaningful coexistence among these nature-based negative emission solutions**.



Source: The European Biochar Industry Consortium (2020)

For example, Investing in high-quality biochar at €900/t for cattle feed, a farmer, despite allocating costs, binds about 2 tons of CO₂ per ton of biochar. With rising CO₂ values, the farmer's climate service covers an increasing portion of costs as biochar production costs decrease with evolving technology.