Biochar for Horticulture

Biochar is a carbon-rich substance made from organic materials through a process known as pyrolysis. Its use in horticulture is increasingly popular due to its ability to enhance soil quality, improve water retention, and facilitate nutrient absorption, leading to healthier plant growth. This factsheet will delve into more detail about the benefits and applications of biochar in horticulture, providing valuable insights for gardeners and growers.

Parameter	Unit	Green-waste Derived Biochar
pH	-	8.00±0.04
CEC	cmol/kg	29±0.13
BET Surface Area	m2/g	5±0.07
Pore volume	cc/g	0.003

Benefits for Horticulture

Increased Microbial Activity: Biochar provides a habitat for beneficial soil microbes, which play a crucial role in nutrient cycling and improving plant health.

Drought Resistant: Its porous structure allows biochar to retain water effectively, reducing the need for frequent watering and helping plants withstand dry conditions.

Liming Effect: Biochar is slightly alkaline, meaning it can help balance the pH levels of acidic soils, making them more conducive to plant growth.

Disease Suppression: Biochar has been shown to help suppress certain soil-borne diseases, contributing to the overall health of plants.

Improved Seed Germination: Using biochar in seed mixes can enhance germination rates and support the early growth of seedlings.

Reduced Nutrient Leaching: Its ability to bind nutrients means less nutrient leaching, leading to more efficient use of fertilisers and less environmental impact.

Glossary

Pyrolysis: A thermal decomposition process where organic material is heated to high temperatures in the absence of oxygen,resulting in the production of biochar.

Nutrient Cycling: The process by which nutrients are exchanged between the physical environment and living organisms, including decomposition, absorption, and recycling of nutrients within the soil ecosystem.

Acidic Soils: Soils with a low pH, often requiring modification to grow a broader range of plants. Biochar can help in raising the pH of these soils to make them more neutral.

Leaching: The process where water soluble substances are washed out from the soil or compost, often leading to nutrient loss. Biochar can reduce this effect by binding nutrients

Greenhouse Gas Emissions: Gases like carbon dioxide and methane that trap heat in the earth's atmosphere, contributing to climate change. Biochar aids in reducing these emissions through carbon sequestration.

BIOCHAR FOR HORTICULTURE

Our Products

Onnu offers sustainable, eco-friendly soil amendments as alternatives to peat for horticulture. Our biochar-based products, crafted from renewable resources, enrich soil health and support ecological sustainability, catering to environmentally conscious gardeners and farmers. **These include:**

Soil Improver for Horticulture	**Fertiliser Mix for Horticulture**	**Compost Mix for Horticulture**	**Compost Mix For Seeds**
95% Biochar with Seaweed extract, wormcast and Mycorrhizal Fungi for micronutrients and enhanced nutrient retention	With Biochar and NPK (5-5-5) for additional nutrients and soil conditioning	20%Biochar and 80% Compost blend for additional organic nutrients and improved soil structure. Ideal for fruiting plants	10% Biochar and 90% Compost blend for improved seed germination

Application Rates

Application rates for our biochar soil amendments vary based on factors like the environment, soil conditions, and plant type. For precise application guidelines tailored to your specific needs, please visit our website at www.onnubiochar.com and refer to the detailed information on each product.

Frequency of Application

Biochar is stable and persists in the soil for several years. Its benefits accrue over time, so frequent reapplication is not necessary. In general, apply every 2 years for optimum results, followed by a soil assessment for more tailored application rates.

Further reads:

Blok et al., 2017

Biochar for Circular Horticulture

Royal Horticultural Society

Biochar Replaces Peat in Horticulture

Find more at:

www.onnubiochar.com