

TerraCoal® - the plus for the climate in horticulture

TerraCoal® is a structurally stable and climate-friendly biochar with valuable horticultural properties. As a sustainable component in the growing medium, it absorbs water and nutrients like a sponge due to its porous structure and slowly releases them to the plant. As a long-term carbon sink, TerraCoal® also helps to reduce greenhouse gas emissions in horticulture.

Biochar as a new substrate raw material

TerraCoal® from Klasmann-Deilmann is a new high-quality biochar obtained from renewable raw materials using the pyrolysis process. It increases the range of substrate constituents such as wood fibres, green compost, coco and bark, which can be used to reduce the peat content in the substrate without any loss of horticultural quality.



Technical properties

- Structure 0-25 mm
- pH value (H₂O): 8.5-10.0
- Salt content (g/l as KCl): 1-3
- Bulk density: ~250 kg/m³

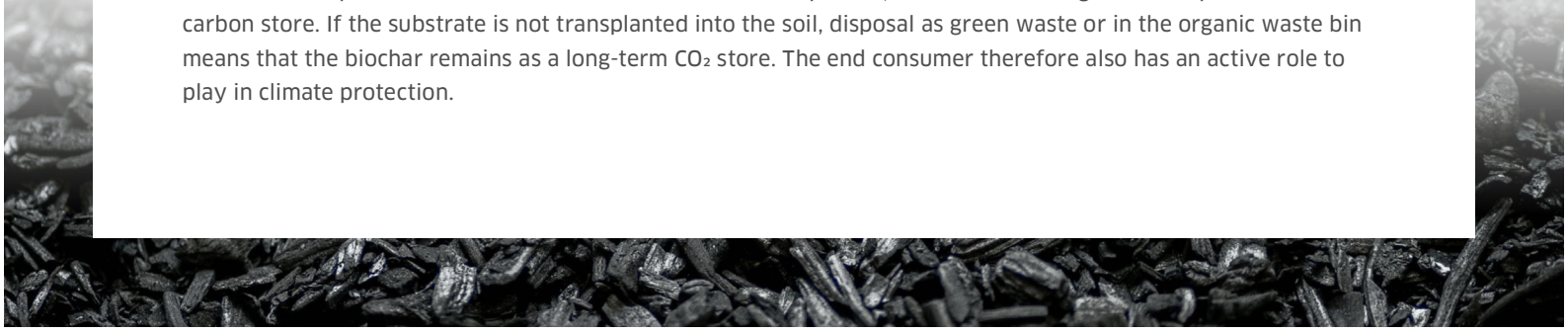


Advantages in crop cultivation

- Long-term structural stability
- Improves the air capacity
- Protects important nutrients from leaching
- Supports the microbiological activity for healthy plant development

Sustainable carbon sink in the substrate

The production of biochar removes greenhouse gases from the atmosphere and stores them permanently. This makes TerraCoal® a valuable CO₂ sink. The substrates from Klasmann-Deilmann can be mixed with exactly the right amount of biochar to offset the emissions of all other components and achieve the greatest possible climate neutrality (net zero). TerraCoal® substrates are particularly interesting for plants that are planted in the soil during the cultivation process or at the end customer. As a soil component, TerraCoal® is recognised as a permanent carbon store. If the substrate is not transplanted into the soil, disposal as green waste or in the organic waste bin means that the biochar remains as a long-term CO₂ store. The end consumer therefore also has an active role to play in climate protection.



Two steps to Net Zero

Reducing CO₂ emissions in horticulture is a challenge that must be solved hand in hand with all stakeholders along the value chain. Substrates also contribute to the product carbon footprint (PCF) of the crop. Organic and mineral substrate components release climate-damaging gases through energy-intensive production processes or natural decomposition processes. A suitable adaptation of the substrate composition can therefore directly reduce the emissions of the crop.

Klasmann-Deilmann pursues two parallel approaches:

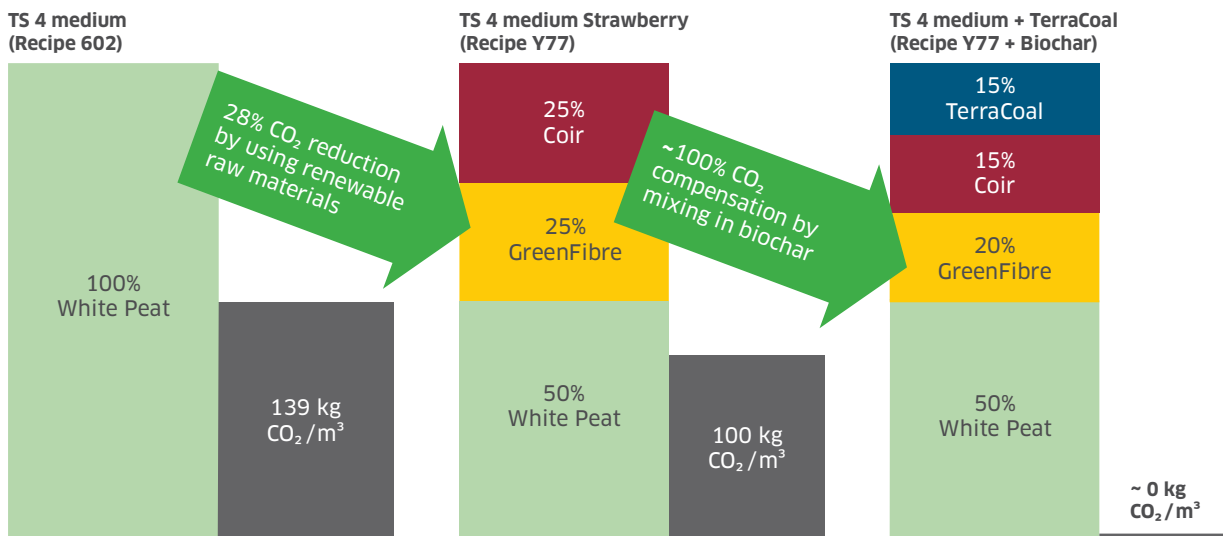
CO₂ reduction

Peat raw materials release more emissions than other substrate components. With the increasing use of renewable raw materials such as wood fibres, green compost, coconut and bark, the amount of peat and the emissions associated with it are being significantly reduced.

CO₂ compensation

TerraCoal® permanently stores CO₂, thereby reducing the amount of harmful gases in the atmosphere and having a direct positive effect on the climate. The so-called cradle-to-grave emissions of a growing medium are calculated based on the guidelines of the IPCC (Intergovernmental Panel on Climate Change) and offset by a precisely calculated component of TerraCoal®, resulting in a substrate with a net-zero carbon footprint. The carbon sink created here can therefore also be independently certified.

The 2-step concept using the example of a substrate for strawberry cultivation in racks:



For more information on CO₂ reduction with TerraCoal® and certification, please contact our expert Johanna Heim (johanna.heim@klasmann-deilmann.com).



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