

Terra-Preta biochar product recovered from wood chips and processed by “3R” high temperature pyrolysis process



wood biochar • terra preta • soil improver • total product safety

Key facts:

- **Product Category:** PFC 1 Solid organic fertilizer, PFC 2 Liming material, PFC 3 Organic soil improver, PFC 4 Growing media, PFC 7 Fertilising products blend.
- **Input material:** wood chips
- **General appearance:** 1-5 mm grain size granulated or powdered 0-1 mm fractions.
- **Nutrient Content (N-P₂O₅-K₂O %)** of non-formulated Terra-Preta biochar: **1- 0.2 -0.5** TC:>80 %
- **Product status:** prior to market introduction.
- **Permit availability:** Meets the new EC 1009/2019 Fertilising Products Regulation (2022) and EC Mutual Recognition Regulation 2019/515.
- **Geographical area:** EU27, UK, USA, Australia and Japan.
- **Price range:** as formulated > €500/ton EXW whole sale.



Summary:

The term “Terra-Preta biochar” is a specific quality product with unique characters, which is processed by the “3R” Recycle-Recover-Reuse high temperature pyrolysis technology and formulations.

Terra Preta biochar product is plant biomass by-product based stabile carboniferous substance that is processed under true value reductive 3R thermal conditions. Wood biochar is used for soil improver, usually between 5 t/ha and 20 t/ha to reach any soil improver effect and eco-safe carbon negative applications. **Terra-Preta biochars are highly suitable for soil improver that is mainly based on high dose effects with high water retention capacity. This is very important as many plant crops are very sensitive to abiotic stress as too hot and dry weather, which climate change is already a reality of today.**

This wood-based Terra-Preta biochar could be **formulated to BIO-NPK-C in any compounds as of user/market demands for both organic and low input farming application cases.** The product is a **fully safe and innovative soil improver with primarily application in the horticultural organic/low input farming cultivations** with combined beneficial and multiple effects. The 3R (Recycle--Reuse- Reduce) zero emission pyrolysis process is **EU Authority permitted.** One of the properties of wood biochar is its high specific surface area that is influenced by the nature of the organic material and the conditions in which it is produced. It is a product rich in micro and macro-pores, which increase the water retention capacity, allow the development of microorganisms and retain nutrients, releasing them gradually over time.

How to use:

- **Type of farming:** organic, low input, conventional.
- **Cultivation methods:** open field, greenhouse
- **Recommended crops:** Fresh vegetables and strawberries, permanent crops (fruit trees), grapes, rice, tobacco.
- **Application doses:** 5-20 t/ha. The application rate for biochar depends on the specific soil type and crop management.

Contact

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Key product features:

- Porous structure: rich in micro and meso-pores, which increase the water retention capacity, allow the development of microorganisms and retain nutrients, releasing them gradually over time
- Having positive effects for effects for soil structure, disease resistance and C storage capacity.
- Improving soil biodiversity.
- Terra Preta biochar, as a component of compost, has several synergistic benefits.
- **No any toxic element content. No organic contaminants: PAH19 <1 mg/kg as of MS regulations.**

Key product benefits:

TOTAL PRODUCT SAFETY + FULL LEGAL COMPLIANCE+ ECONOMICAL APPLICATIONS:

- Terra Preta biochar is produced from unexploited and renewable by-product streams from EU sources.
- Flexible application scenarios for the Users. No water pollution risk.
- **Fully organic certified.**
- The product is fully **safe to use** under any climatic and soil conditions.
- **Improved food quantity, quality and safety for less cost.**
- **EPR: Extended Producer Responsibility certified.**

Competitive position and advantages:

The recovered, contamination free, safe wood biochar is a strategic biochar soil improver product for the organic and low input farming applications.

Terra-Preta biochar is rich in micro and macro-pores, which increase the water retention capacity, allow the development of microorganisms and retain nutrients, releasing them gradually over time. Wood based biochar are highly suitable for soil improver. However wood biochar cannot be used directly as organic fertilizer it can indirectly contribute to nutrient retention that is in combination with water retention capacity. Wood biochar as a soil improver is important for managing biodiversity in soil, improve his microbial populations that are critical to soil function and ecosystem services. Biochar as a soil have positive effects for soil structure, nutrients, water retention, disease resistance and C storage capacity.

The combination of Terra-Preta biochar with compost, manure or another organic fertilizer is most encouraging for improving the agronomic performance. The activation of Terra-Preta biochar with other products, like compost, whey, and nitrogen sources having several advantages. Compost integrated application positively influences soil structure, including reduction of bulk density; increase of aggregate stability; improvement of pore volume and hydraulic conductivity; improved water retention; improved air balance; reduction of soil erosion and run-off; stimulating microbial growth and respiration rates; improved heat balance of soils and increase of Cation Exchange Capacity. Terra-Preta biochar as a component of compost can have synergistic benefits: it can increase microbial activity and reduce nutrient losses during composting, it becomes rich in nutrients, microbes and pH-balanced, and its mobile matter content is easier decomposed into plant nutrients. Terra-Preta Biochar is also a compost activator, addition to composting process results shorter composting time, reduced rates of GHG emissions, reduced ammonia losses, and reduced odour and will retain moisture and nutrients. **The Terra-Preta biochar fully meets the 1009/2019 Fertilising Products Regulation EU law harmonization beyond 2022.**

