



Recycling treated organic waste as compost and bio-char products for reducing mineral fertilisers and chemicals use in agriculture

REFERTIL

Conversion of science - into - knowledge based economical industrial practice for SME farmers

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What is biochar: **plant or food grade animal bone based carboniferous product with well defined, controlled and safe quality.**

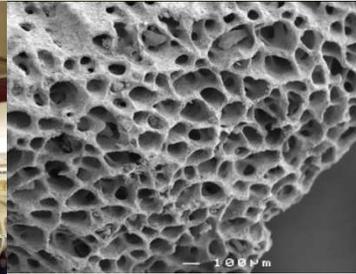
Plant based biochar: **high C content soil improver.**

Food grade animal bone biochar: **full value organic P fertilizer.**

Benefits: **improving soil physical and/or chemical and/or biological properties/soil activity, water/nutrient retention, organic P fertilizer, providing new SME economy, supporting conservation agriculture.**

Biochar is for low carbon bioeconomy

Biochar for high efficient bio-waste resource utilization



ABC
Animal Bone
bioChar



Efficiency tests

**3R pyrolysis processing
field demo plant since 2004:
proven demonstrated in 10 years**

Commercial production tests



**The advanced REFERTIL results are
achievements of the integrated EU
top science and technology
cooperation.**



Drought tolerance tests

**The final product
SAFE FOOD for
affordable cost**



Targeted users: SME FARMERS, horticulture, tobacco and + added value crops

REFERTIL main results

1. **Bridge over and interconnection of biochar applied science and economical industrial practice** for the interest and benefits of the SME farmers.
2. Improvement and **validation of biochar production** and BAT treatment process towards high quality standardized biochar production.
3. **Biochar product validation tests** in different climatic, soil and dose conditions in Europe.
4. Scale up field demo into **zero emission full industrial replication model** with 10,000 t/y output **ABC Animal Bone bioChar** at Hungarian site. Targeted **turn over > € 20 M/y. Low CAPEX, low OPEX, ROI <3 years**, strong output product uptake market in IT, FR, ES, DE, JP, AU and US.
5. **EU FERTILIZER REGULATION revision policy support** development for setting up common quality biochar standard requirements, limit values and EU/MS law harmonization.
6. **Target next:** be global and strategic player for ABC before 2020.