



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.