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BIOCHAR

Biochar for carbon sequestration in soils:

Analysis of production, biological effects in the soil and economics

A cooperation project of:

AIT – Environmental Resources and Technologies
Universität für Bodenkultur Wien
Joanneum Research GmbH
Bundesforschungszentrum für Wald

Project period: 2010 - 2013

OBJECTIVES

- Determinations of the effects of **feedstock and pyrolysis conditions** on biochar output and biochar characteristics.
- Analyses of the **carbon sequestration potential, biological and environmental effects** of biochar applications to the soil.
 - **stability of biochar** in soil and differentiation of labile and stable pools,
 - response of **soil microorganisms** after biochar application,
 - **nutrient bioavailability** from biochar for plants and nutrient leaching,
 - effects of biochar on non-CO₂-**greenhouse gas emissions**.
- **Economic evaluation** of biochar production and application.

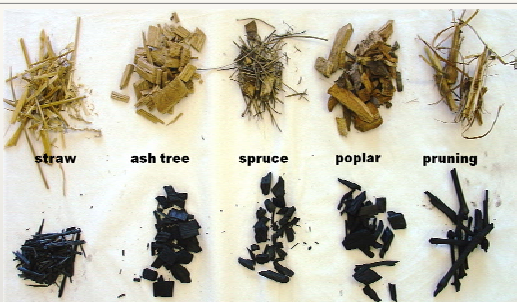


Fig. 1: Different pyrolysis feedstocks and the corresponding biochar products.



Fig. 2: Setup of a greenhouse pot experiment as a part of the experimental approach.

EULAKES

European Lakes under Environmental Stressors

A cooperation project of:

AIT – Environmental Resources and Technologies
Austrian League of Nature Conservation Burgenland
Lake Garda Community
Environmental Protection Agency of Trento
Edmund Mach Foundation
University of Pannonia
Lake Balaton Development Coordination Agency
Polish Institute of Meteorology and Water Management
Italian National Research Council

Project period: 2010 - 2013

OBJECTIVES

- **Ecological characterisation** of Lake Neusiedl, Lake Garda, Lake Balaton and Lake Charzykowskie.
- Assessment of **ecological trends** based on monitoring records.
- Derivation of lake-specific **risk factors** for future development of the lakes.
- Assessment of the **effects of agricultural plant production** on water balances and nutrient input.
- Application of regional climate models to establish future **climate scenarios**.
- Derivation of the **development of risk factors** for the lakes under future climate conditions.
- Derivation of lake-specific and common **governance recommendations** for improved lake protection.
- **Pilot action with a local school** to sensitize the local population to adverse effects caused by excessive nutrient input into the lake.

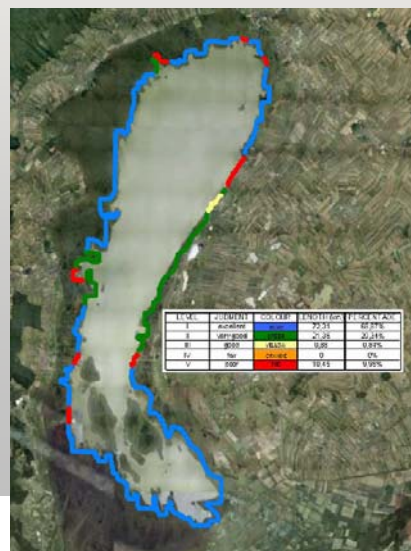


Fig. 3 : Mapping of Shorezone Functionality Index around Lake Neusiedl.