

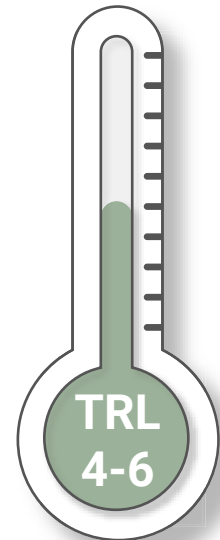
GO-GRASS

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PRACTICE
ABSTRACT

Biochar from grass



Technology
readiness level:



Target group

Rural farmers, agricultural industry, policymakers, feed industry, rural communities, entrepreneurs, machinery company, and local authorities could be interested. Biochar is a high value product with a multitude of applications. Its potential to provide a carbon sink will make biochar of interest for all entities with the goal to achieve climate neutrality.

Benefits and impact

The process generates substantial amounts of heat which can be used on the farm. When applied to soil it can generate a carbon sink and carbon credits on the voluntary market. Biochar from grass can be registered as an EU fertilising product.

Description

The project focuses on the usage of late harvested grass from the Lower Oder Valley National Park. At harvest time the grown biomass is heterogeneous, highly lignified, and low in nutrients and has a low value as feed or substrate for biogas plants. Therefore, the focus is placed on the production of biochar from the late harvest grass. The aim is to produce biochar and use it as soil amendment. Before spreading, the char particles are charged with water and nutrients. The farmers can expect a higher or more stable yield with the help of a material that would have otherwise a low value.



Watch the
[demosite video](#)



Challenges

Extensively grown and ecologically beneficial harvested grasslands provide a large amount of biomass with very limited value and limited potential for agricultural utilisation. At the same time, the intensive utilisation of agricultural soils poses a multitude of challenges, including the reduction of soil organic matter, or leaching and loss of nutrients, particularly on low quality soils. Providing economic utilisation of high nature value grasslands while at the same time increasing soil quality, are the main challenges to be addressed.

Solution

The production of biochar from surplus grass and its utilisation in agricultural soils can provide economic incentives for the maintenance of high nature value grasslands and enhance agricultural soils through the addition of biochar. Before the addition to the soil biochar application in barns may reduce the pain of bad odour and increase animal welfare. When added to the composting process it can reduce greenhouse gas emissions. Subsequently, it acts as a supplement for organic fertilisation of adjacent agricultural fields, characterised by sandy soils, low nutrients content and water holding capacity. Biochar will increase the water holding capacity, the nutrient retention as well as soil microbial activity. The high content of inorganic material may have beneficial long-term effects. With the biochar carbon is fixed in soil, and carbon credits can be generated on the voluntary market. Additionally, the large amounts of energy released during the production process may substitute fossil fuels.

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