PRO-NATURA INTERNATIONAL
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NEW BIOCHAR-POWERED FARMING WITH THE INNOVATIVE SUPERCHAR 100 MK II FROM CARBON GOLD

Beyond its partnership with Green Charcoal International on medium and large-scale biochar production technologies, Pro-Natura International, one of the pioneers of biochar use in developing countries, is now partnering with the UK Company **Carbon Gold** on smaller production units.

The SuperChar 100 Mk II engineered in the UK

Carbon Gold is a world leading biochar company promoting the responsible use of biochar in the UK and internationally for both the health of our climate and health of our soils. For those looking to make their own biochar, Carbon Gold has developed the SuperChar 100 range of efficient and easy to use kilns. Making and using biochar is a 'win-win-win' proposition – it helps reduce climate change, improve soil health and boost plant growth.

The SuperChar 100 Mk II kiln delivers the following benefits:

Fast carbonization cycles – biomass is converted to biochar within 8 hours.

Flexible – can process moist renewable biomass including freshly cut wood and wet woodchip.

Efficient – biochar yields of around 20-30% of the feedstock weight. This means around 100 kg of biochar per 8 hours carbonisation cycle with the SuperChar 100 range.

Easy to use – designed to operate in low infrastructure environments. Aside from the required training, operating a kiln does not require any specific skills.

Transportable – kilns can be transported from site to site on a trailer or a flatbed vehicle in order to reach available feedstock.

Low emissions – Carbon Gold kilns recycle syngases to produce low GHG emissions.

Professional support – includes an operating manual, email assistance and on-site training.

The resulting biochar can easily be crushed and mixed with compost or applied directly to improve your soil.

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Feedstock

The SuperChar 100 Mk II can process a broad range of agricultural residues unused for animal feed or for enriching the soil with organic matter, it includes renewable wood residues. The type of feedstock will affect the amount of biochar being produced due to varying carbon contents, for example more biochar will be produced from highly ligneous biomass than the same weight of rice husks.

Manning

Aside from the required training, operating a kiln does not require any specific skills and can be done by one or two people. During it's operation the kiln requires a relatively low attendance time.

Dimensions

The dimensions of the kiln when operational are 3 metres by 2 metres with a height of 2.2 metres, which extends to 3.5 metres with the hoist. The internal volume for feedstock is 1.5 m^3. The weight of the kiln and accessories is around 500 kg.

Delivery

Delivery is included in the cost of the kiln. The kiln will take 6-weeks from order to dispatch.

Demonstrations

It is possible to attend a demonstration in the UK and see the kiln in action. For more information please contact Carbon Gold.

Contact

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Rice in Senegal without biochar

Rice in Senegal with biochar

USING BIOCHAR TO FEED THE GLOBAL SOUTH WHILE MITIGATING CLIMATE CHANGE

Biochar (a form of ecological charcoal) has been called **"The Third Green Revolution"**. When used in fine granular form (less than 2 mm) and combined with organic fertilizers like camel or cow dung, it can be applied to different soil types across a variety of climatic conditions. The poorer the soils, the more the effect of biochar is spectacular.

Our experience in tropical areas has shown that a single application of approximately 10 tonnes per hectare can **increase crop productivity to levels that range from 50 to 200%.** Just one application provides and maintains long-lasting soil fertility benefits that enhance carbon sequestration in the soil, thus fighting climate change.

Today, biochar research shows measurable, replicable improvements in soil productivity:

- Enhances the soil biological activity (40% increase in mycorrhizal fungi)[1]
- Improves nutrient retention in soils (50% increase in Cation Exchange Capacity)[2]
- Improves the water retention capacity of soils (up to 18% increase)[3]
- In terms of carbon sequestration, 1 tonne of biochar is equivalent to 2.7 tonnes of CO_2
- Increases the pH of acidic soils (1 point pH increase)[4]
- Increases soil organic matter[5]

Adding biochar to the soil in the South of Algeria

Five weeks later a Biochar Super Vegetable Garden

In Belize, Carbon Gold biochar-treated cacao tree on the left has started producing pods significantly earlier than the non-biochar treated tree on the right – both are three years old

[1] Lehmann, J. and Joseph, S. (eds) (2009) Biochar for Environmental Management. Earthscan: London.

[2] Warnock, D.D., Lehmann, J., Kuyper, T.W. & Rilig, M.C. (2007) Mycorrhizal responses to biochar in soil – concepts and mechanisms. Plant Soil (2007) 300:9–20

[3] Glaser, B., Lehmann, J. and Zech, W. (2002) Ameliorating physical and chemical properties of highly weathered soils in the tropics with charcoal - a review, Biology and Fertility of Soils **35**, 219-230.

[4] bid

[5] Lehmann J. and Rondon M. (2006) Bio-char soil management on highly weathered soils in the humid tropics. In Uphoff, N. (ed.) *Biological Approaches to Sustainable Soil Systems*. CRC Press, Boca Raton, FL, USA. pp. 517-530