

Farmers, Growers and Gardeners (FGG) Biochar Research 2014 Experiment Participant Leaflet

Participatory Research into the Impact of Biochar on Crop Yields in the UK

The Centre for Agroecology and Food Security (CAFS) at Coventry University have teamed up with Oxford Biochar Limited to continue the work and success of their Big Biochar Experiment. The FGG biochar project team is seeking participants from the Big Biochar Experiment, Garden Organic membership (particularly Master Gardeners, Master Composters) and growers of the Organic Growers Alliance.



What will I have to do?

We'll let you have more details during the workshop and in the guide, but in brief;

- Set up at least two 1m² vegetable beds.
- Record soil pH and soil structure.
- Add any soil amendments, such as compost, on both beds.
- Dig biochar into one bed.
- Plant the seeds of one or two vegetables in both plots, treating both plots in the same way.
- Record soil amendments you used and application rate, which seeds you've used and the date of planting.
- Record germination dates and rates. Take pictures throughout growing season.
- Water as required but treat both plots in the same way.
- Harvest the vegetables from both plots at the same time.
- Record results in Biochar Guide Record Sheet.

The Centre for Agroecology and Food Security (CAFS) is undertaking a citizen experiment into biochar funded by Coventry University.

CAFS is an initiative between Coventry and Garden Organic (GO) bringing together a multidisciplinary team of practitioners and scientists with the aim of 'creating resilient food systems worldwide'. One of the ways we intend to achieve this is to conduct research into sustainable soil amendment techniques, of which biochar is one.

For this experiment we are also working with Oxford Biochar and the Organic Growers Alliance.

Registration

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The Centre for
Agroecology and Food Security

Creating resilient food systems worldwide

What is biochar?

Biochar is a carbon rich product obtained when biomass such as wood, manure or leaves, is heated in a closed container, with little or no air. In other words, biochar is charcoal made using modern technology, from sustainable resources and is used for any purpose that will not result in its rapid break down back into CO₂, such as burning it as a fuel (The British Biochar Foundation).

There is now some evidence to suggest that if you dig biochar into your soil it can be an effective means of carbon sequestration (taking carbon out of the air and storing it in the soil). This helps to alleviate climate change. During the production of biochar, heat, oils and gases are produced which can be used as an alternative source of energy. Producing biochar also reduces waste streams by diverting residues into useful products. In addition, it can also improve soil fertility, the health and diversity of soil microbial populations, soil structure, soil stability, nutrient cycling, soil aeration, water use efficiency and disease resistance (Lehmann et al, 2011).

Why do we need a participatory experiment?

Much of the research on biochar has been carried out under laboratory and controlled field trials. However, it is now time to involve farmers, growers and gardeners in this participatory experiment. Biochar's interaction with soil types, climates, crops, management regime etc is so complex and varied that it is only by involving as many participants as possible, with their different circumstance, that we can determine if biochar really works and is practical.

How can I join the experiment?

On Saturday 22nd March 2014 the project team will hold a workshop at Garden Organic, Ryton, Warwickshire, CV8 3LG. During the workshop the CAFS team will demonstrate how to set up and run your experiment and record data.

There will also be a free lunch!

During the day you will be able to pick up your free bag of biochar, pH test kit, seeds and biochar experiment guide.

A Source of Renewable Energy?

Producing biochar generates heat, oil and gases



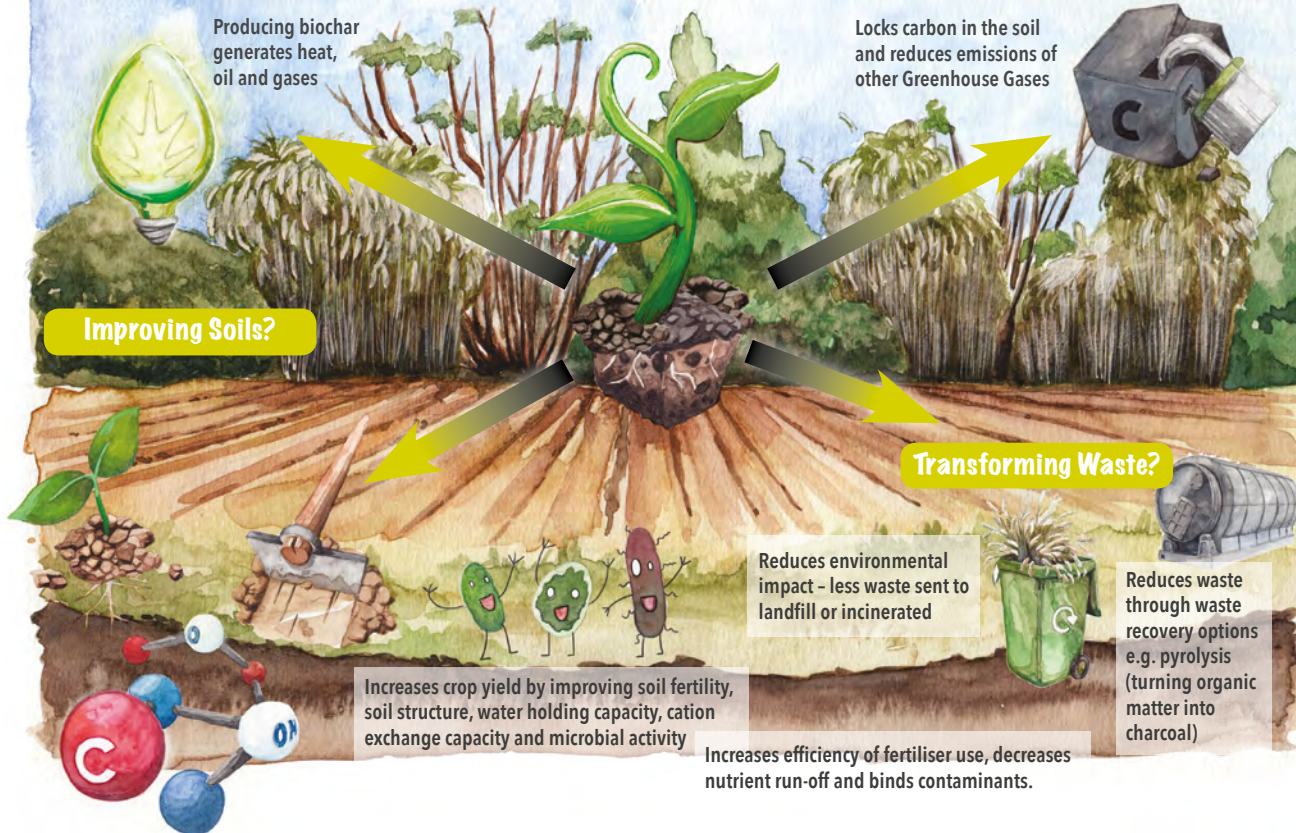
Potential Benefits of biochar

Climate Change Mitigation?

Locks carbon in the soil and reduces emissions of other Greenhouse Gases



Improving Soils?



Transforming Waste?

Reduces environmental impact - less waste sent to landfill or incinerated

Reduces waste through waste recovery options e.g. pyrolysis (turning organic matter into charcoal)

Workshop Registration

To register for the workshop please contact donna.udall@coventry.ac.uk or send a postcard with your contact details including address, to the address over the page.

Experiment Registration

If you are unable to attend the workshop, but wish to participate in the experiment, please contact donna.udall@coventry.ac.uk. We will post you full details on how to take part along with your bag of charcoal, pH test, seeds and experiment guide.

Participants from the Big Biochar experiment are very welcome!