

The production of biochar

David Hutchinson



Charcoal the catalyst

**From the dawn of civilisation
charcoal has helped us
develop from Stone Age Man
into
Technological Man**

Myriad uses

**art, cosmetics, ceramics,
metallurgy, gun powder,
light bulbs, medicine,
filtration, flatulence, farming
and the list goes on**

Declining charcoal industry

The 1800's

The making of coke from coal

The 1900's

Two world wars

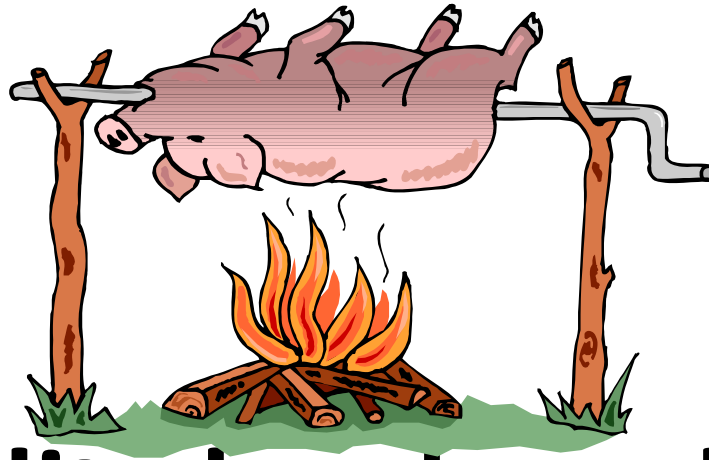
The decline of rural crafts

Cheap imports

Resurgence

1980's

The fashion for barbecuing



quality local produce

Developing the market

**1991 First horticultural charcoal trials in
Britain**

**A joint project between the Forestry
Commission Research Division and
Yorkshire Charcoal Company.**

**Five years of trials in open seed beds and
pot grown trees.**

Picking up momentum

Discovery of Terra Preta in the Amazon

**Increase in university research projects,
world wide**

National and International conferences

A modern new name

for

horticultural charcoal

fit for the

21st century

biochar

The raw materials

Just about anything that is or was living



All living things are made of carbon

coppicing

Traditional woodland management



Forest of Leeds

Ample raw material to start with



1,300 hectares owned and managed by the council

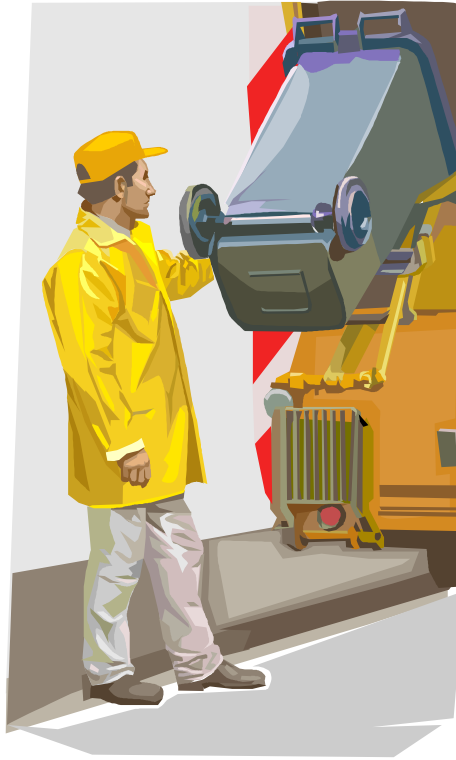
3,660 hectares in total

Garden waste



Even the old Christmas tree

House hold waste



Anything biological

Food wastes

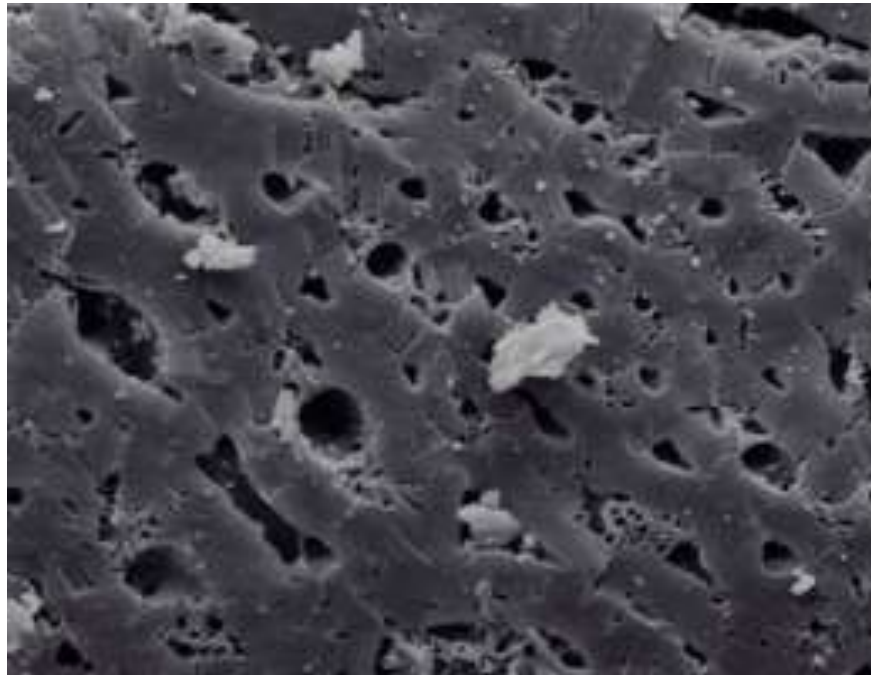


Human waste



273 degrees Celsius

Carbon skeleton



Charcoal or biochar

The equipment



Traditional methods



Metal ring kilns



Oil drum retorts



Mobile continuous retort vip



Rekindling the ancient industry

New opportunities

New applications

Everyone can be involved

Support

City Councils, key players

**Parks, Countryside, environmental and
Highways departments**

Waterways

**Contracts to purchase biochar from local
producers**

Markets

Addition to park, garden and allotment soils and composts in planters, tubs, troughs and baskets.

Mopping up pollution spills, especially oil based spills on water or land

Cleaning up brown field sites

Financial benefits

Increasing crop yields

Reducing frequency of watering

**Reducing fertilizer
applications**

Environmental benefits

Increases in
mycorrhizal fungi
moisture retention
nitrogen fixation
cation exchange capacity
Fixing carbon forever

Reduction in pollution

**100% decrease in methane
emissions**

**50% decrease in nitrous oxide
emissions**

The dawn of a new Age

charcoal

The unsung hero

Finally coming of age

The Age of Biochar

David Hutchinson

Yorkshire Charcoal Company

Email ycc@charcoal.org.uk

Tel. 01723 864957