

maccy biochar

Auspiced by the Macclesfield Community Association Inc.

Email: maccybiochar@adam.com.au

Website: <https://www.maccybiochar.com>

BIOCHAR for HOUSE & GARDEN

Introduction:

Biochar is a form of charcoal and is good for the soil and combats climate change by sequestering carbon.

Biochar has a very porous structure that facilitates water absorption and adsorption of water-borne nutrients.

So when biochar is mixed into the soil it helps the soil retain water and nutrients thereby reducing water consumption and increasing plant yields.

The porous structure of biochar also encourages micro-organisms to reside within the structure thereby facilitating the exchange of nutrients between plants and such organisms.

Quenched biochar:

Quenched biochar is pure, unadulterated biochar that has come directly from the kiln after being thoroughly quenched with water. The quenching process enhances the porosity of the char by fracturing and causes the char to absorb about its weight in water so that it then contains about 50% water. A lump of such biochar will still float in water for a few days but will readily absorb more water until it finally sinks.

Note: Unquenched char such as charcoal from a bushfire or from your wood slow combustion fireplace will often take much longer to absorb enough water to actually sink in water because any unburnt tars held within the char will repel water.

When raw unquenched biochar is buried in the soil it will absorb water and adsorb nutrients from the soil in its immediate vicinity. This can initially rob plants of some water and nutrients until the roots of the plant “discover” the biochar. This has been termed the **J-curve** referring to the sometimes decreased yield prior to the increased yield of the plants in the vicinity of the biochar.

Handling: Biochar can have fairly sharp edges so best to use gloves when handling it. Also keep it damp to avoid it becoming dusty or wear a dust mask when handling it. And never try to burn biochar; carbon monoxide (a deadly gas) will be emitted and the carbon will be returned to the atmosphere.



Typical flame-capped kiln for garden use

Enriched biochar:

Enriched biochar is quenched biochar that has been enriched with nutrients such as that available from good soil, worm tea, animal manure etc. The enriching process enhances the ability of the char to hold nutrients for plants and to attract the bacteria and fungi sought after by plants. Use of enriched biochar will therefore

Production of Biochar for
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tend to avoid the so-called J-curve effect associated with raw unquenched biochar.

Enrichment process:

The enrichment process can vary from the sublime (such as simply mixing with your best soil) to the complex (such as mixing with soil, rock dust, manure and bacteria for a prescribed period underground or in a mixing chamber). Every producer of enriched biochar will have their preferred method.

Potting:

Place a handful of quenched biochar (approx. 35% by volume) at the bottom of the pot. Use lump biochar in your large pots; and granules in your smaller pots.

Tree Planting:

Mix a handful of granular quenched biochar into the soil where you plan to plant your tree together with a handful of your preferred plant nutrient. Eg. aged chicken manure.

OR use the same amount of enriched biochar without the further added plant nutrients.

Drainage:

Wherever you need to improve drainage in your garden quenched lump biochar can be used.

If you plan to use a wicking bed you can use quenched lump biochar in the reservoir area instead of rocks etc.

Food scraps bin:

Throw a handful of quenched granular or powder biochar into the bottom of your food scraps bin before use and you will find that the odour of rotting foods is greatly reduced.

Compost heaps:

Add quenched granular biochar to your compost heap (either directly or via the contents of your food scraps bin) to improve the water-holding capacity and nutrient level of your compost and to enrich the biochar. The addition of biochar to the compost will also reduce the amount of methane emitted by the rotting food.

Pond recirculating filter:

You can use a biochar filter in the water recirculating pipe to your fish pond to remove water-borne contamination. Use a section of drain-pipe filled with biochar placed in the line with couplings at each end to allow removal for periodic cleaning.

Other: If you have found other uses of biochar in and around your house and garden please tell us about them.

By the way: Some other applications of biochar are not mentioned here as they are more relevant to landowners, businesses and Local Councils. These include land and water de-contamination; road-side tree planting water catchment;

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animal feed supplements; pasture care; asphalt production; concrete colouring; etc. We are planning to publish other pamphlets dealing with these other uses of biochar.

Carbon capture:

Remember that biochar is primarily made up of pure carbon and ash. The latter is locked up in the biochar (i.e. not loose). Typically the percentage carbon content is in the range 70 to 80%. So for every kilogram of biochar made about 750 grams is carbon that has been extracted from atmospheric carbon dioxide by plant photosynthesis. As carbon dioxide is 3.6 times heavier than carbon then each kilogram of biochar represents about 2.75 kilograms of carbon dioxide removed from the atmosphere and sequestered in the soil.

ABOUT US

Maccybiochar is a community-based, not-for-profit group set up to help make Macclesfield carbon neutral. Our primary activity is the production of biochar from woody waste sourced from local households, landowners and businesses. The carbon credits created by making biochar are used to offset the greenhouse gas emissions of local households. We are based in Macclesfield, South Australia.

HOW CAN YOU HELP?

Become a Member!

Use our Drop-off Site:

FREE for members and Macclesfield households. Only modest fees apply for other households.

OUR PRODUCTS

1000L bulk bag of quenched biochar



Typical Analysis (Dry Basis):

Carbon content (%):	70 to 80
Ash content (%):	10 to 15
Volatiles content (%):	5 to 10

Ash composition available on request.
No heavy metals or PAH's detected.

Call Brian on 0411 480 935 for further information.

15L bag enriched biochar

Call Kelvin on 0423 198 345 for further information.

GENERAL ENQUIRIES CONTACT:

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