

# MACCY BIOCHAR MEMBER BULLETIN

No. 13 - October 2020

Auspiced by the Macclesfield Community Association Inc.

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HELLO ALL.

Welcome to our 13th Member Bulletin.

This bulletin reports on our biochar production to October (as counted so far); Working with Vineyards; Victor Harbor Workshop; and Origins of the Flame Cap Kiln.

## BIOCHAR PRODUCTION

MACCYBIOCHAR	SCOREBOARD at		28/10/2020	
YEAR	2019 *	2020**	TOTAL	Units
BIOCHAR PRODUCED	1720	17246	18966	Litres
CARBON CAPTURED	222	2231	2453	Kg
NET CO2 CAPTURED	0.775	7.491	8.266	Tonnes
TOTAL MWHr OFFSET	1.520	14.688	16.208	MWHr

\* Re-calculated based on 3rd party biochar analysis dated 19/4/20

\*\* Includes 3090L from members.

We hope to increase this score during November up until the start of the fire danger season when we will cease operations until close of fire danger season next Autumn.

## NEW KILNS

We now have 2 additional kilns, each just under 1 cubic metre capacity. These midi-kilns are easier to use than our large kiln and designed to be transportable. Here is one of them in action in the foreground. Note the difference in size from the smallest to the largest.



## MEMBER CONTRIBUTIONS

We have 3 small kilns available for members to borrow for home use and for us to add their production to the group total for carbon capture purposes. The member contribution is currently 3090 litres. **Call me on 041148 0935 if you would like to borrow a kiln.**

## SALES



Our enriched biochar is available from Goding's Farm Supplies, 50 Venables St., Macclesfield for \$18 per 15L bag. This is very good value indeed and stocks are disappearing steadily.

**Bulk Bags of our raw quenched biochar** are also selling steadily at \$400 per cubic metre. This is of course fantastic value at \$0.40/litre. We currently have stock available so if you know anyone that may be looking for biochar let them know before we sell out.

## NEW MEMBERS

Welcome to new member Rob Ahrens who lives at Rockleigh. Rob has a keen interest in all things that improve the health of the soil and has already spread the word about Maccy Biochar in the Murray Bridge region. Remember that application forms are readily available from the website at [www.maccybiochar.com](http://www.maccybiochar.com) so please encourage friends and family that show any interest to simply join.



MOUNT BARKER  
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## WORKING WITH VINEYARDS

We have come to an arrangement with local vineyard Spring Hill to help them make biochar from their vine offcuts. They supply the feedstock and the water supply; and we supply the kiln and the labour. And we share the product. This is our first step towards working with the local wine industry and we hope to develop this relationship further as we grow. Here is Tony stoking one of our midi-kilns with the wood heap in the background.



We now have both our midi-kilns working at the vineyard as shown below with Dean this time working the flame



while Tony and John enjoyed their lunch break.



## VICTOR HARBOR BIOCHAR WORKSHOP

South Coast Environment Centre, Victor Harbor.



Here is the group discussing some of the many aspects of biochar after having seen the transformation of their woody litter to biochar. Another successful workshop! The next workshop will not be until next year after the fire danger season is over but we are taking bookings now for 2021.

## ORIGINS OF THE FLAME CAP KILN

One of the developers of the modern flame-cap kiln **Hans-Peter Schmidt** was recently asked to explain how the flame-cap kiln came about. He could not remember exactly if he found out about the “flame cap”/“flame curtain” principle through Kelpie Wilson’s website or through Josiah Hunt’s pit demonstration. He said “It was the one or the other.....” But he clearly remembered that he and **Paul Taylor** called it the Kon-Tiki later (in 2014) and that it was inspired by Kelpie Wilson, Josiah Hunt, Moki, Moxham, Wittman, Gilmore and the ancients. He and Paul Taylor described this “history” in their first article about the Kon-Tiki entitled: **Schmidt H-P, Taylor P: Kon-Tiki – the democratization of biochar production: the Biochar Journal 2014**

<https://www.biochar-journal.org/en/ct/39>.

He thought that their part in the story was mainly the popularization of the Kon-Tiki through articles and open access designs and operating instructions. That led to the success of Kon-Tiki type constructions in more than 65 countries by 2017.

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In their article, Paul and Hans-Peter also explain why they chose the Kon-Tiki as a generic name for it and why it was important to use a catchy name. Nowadays outside the US, and in a growing number of scientific publications, everybody uses the name Kon-Tiki.

**Kelpie Wilson** says that she finally figured out how to use the cone kiln in spring 2013 <https://photos.app.goo.gl/U4qpskMMRBg4V4M26>. She built it the year before and it took many tries to figure out how it worked. The pictures from Japan were all she had to go on. Kelpie gave a talk on the cone kiln at the 2013 USBI conference in Amherst and after that, a lot of people started experimenting with cone kilns. She then switched to pyramid and cylinder shapes because the cone was too difficult and expensive to fabricate.

**Paul Taylor** says that the cone approach for him was specifically inspired by Tom Miles in his 2011 presentation referencing the January 2010 paper on the use of the Moki Kiln for making biochar for the “Cool Veges” initiative: *A Rural Revitalization Scheme in Japan Utilizing Biochar and Eco-Branding: The Carbon Minus Project, Kameoka City. Steven R. McGreevy, Akira Shibata,* and by this report using the Moki kiln: *“Properties of Cinders from Red Pine, Black Locust and Henon Bamboo Inoue”, Y; Mogi, K; Yoshizawa, S APBC Kyoto 2011.*

Paul started to design large transportable flame cap ring kilns, assembled in sections, for handling large burn piles on his property in Northern NSW. And independently, in late 2012, **Dolph Cooke**, a neighbor, reported making biochar in an open top, deep steel ring, which he called the Moxham.

See <http://biocharproject.org/charmasters-log/farm-scale-biochar/>

In 2013 **Kelpie Wilson** discovered and reported the gradual feeding technique for the cone kiln, and **Stuart Mather** drew attention to the Holy Mother Kiln that **Dr Reddy** reported in May 2011: See <https://biocharkiln.blogspot.com> He called it a TLUD (Top-Lit Up-Draft) but you can start a flame cap ring in a “TLUD” mode, then convert to flame cap by closing off the primary air, thus preserving the created char

and allowing more biomass to be added till the kiln is full of char.

**Paul Taylor** remembers 2013 as a big year for the emergence of the flame cap method. It took till 2013/14 to break the spell that making biochar required various complexities of vessels, pipes, seals, lids and chimneys.

Kon Tiki was named as Paul and Hans-Peter first lit it because it was the first “voyage” of a large deep cone kiln, and they had no idea if it would work. The name was confirmed when Paul discovered that Kon-Tiki was a fire/sun god.

The angle of the kiln was certainly a question. Paul made the 1.2m diam kilns with 60 deg sides because with that angle you optimise the use of standard 1:2 format rectangular sheet. This optimisation of use is not quite the same for the 2 sheets needed to make bigger cones but Paul settled on a maximum volume achieved at about 64.5 deg and 1.65m diameter (for 1.2m x 2.4m sheets).

## EVENTS

**STRAWBERRY FETE** – Sunday 22 November  
Davenport Square, Macclesfield. We will have a stall at the fete selling enriched and raw biochar plus up-to-date information on the progress of our biochar initiative.

**END OF SEASON CELEBRATION** – Sunday TBA,  
Davenport Square, Macclesfield. All members are invited to get together for a BBQ lunch to celebrate our achievements this season.

## COMMITTEE MEMBERS at present are:

**Brian Lewis** – Chairman. **Kelvin Williams** – Site coordinator. **Geoff Brockhouse** – Wood collection Team Leader. **Kath Thurmer** – Community Liaison. **John Agnew** – Schools Liaison. **Greg Marlu** – Technical advisor. **Stephen Heading** – Technical advisor. **Dean Hewlett** and **Meegan Semple** – Viticulture liaison. **NB:** All members are welcome to attend Committee meetings held on the 2<sup>nd</sup> Monday of each month in the Macclesfield Institute Supper Room starting at 7:30 pm. **Enquiries to Brian Lewis Mob: 041 148 0935**

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