

## **Biochar Information Notes from Wollongbar Field Trip, DPI Research Station, 19<sup>th</sup> November 2012.**

Not all biochar is OK. If too hot say @ 800 degrees C, carbon will go to silica and like asbestos.

Biochar made from manure has high P and availability over a long period. It also provides improved N use efficiency. Usual conversion from synthetic fertiliser is only 40% of N applied.

Biochar showed to increase total Carbon in soil from 4.5% to 5.2%. 6.5% eventually accumulated when @ 45 tn biochar added per ha to a simulated dairy pasture. This was rotary hoed into soil. The application is dependent on your farming system.

Biochar is stabilising labile organic Carbon.

There is a different temperature / time continuum with different biochars.

Biochar shown to have liming benefit equivalent to 2tn/ha better than ag. Lime because of the lasting liming effects, not just calcium but other elements.

Biochar from animal nutrients strong liming effect, Carbon and nutrients.

Eucalypt biochar has low cation exchange capacity, therefore less productive benefit gained and less agronomically valuable.

It is good to have green waste mixed in with biosolids.

Goal is to produce biochar for \$100-300/tn which would compete effectively with synthetic fertilisers.

Biochar has physical qualities that makes soil clods less tensile and improved moisture holding ability.

Lots of opportunities for methodologies around biochar. E.g. Less NO<sub>3</sub> benefits for CFI. Biochar protects N from denitrification.

It is difficult to get product for large scale trials.

South Australia No Till Association is using high pressure water to put in deep N without the need for tilling. May be OK for sandy soils such as in WA, but not sure in heavy soils.

Have used biochar in air seeders but more work needed. NSW DPI supporting 8 different projects for Action on Ground / Caring for Country. Equipment can be leased for trial work.

