

NATURAL FARMING - Wood vinegar has many uses

Interest is growing in the product

By Jessica Cole

Wood vinegar has been used for hundreds of years. For the past 60 years or so it has been used extensively throughout Asia in agriculture. It was produced on an industrial scale and further refined for valuable chemicals like acetic acid and acetone until the 1930s when synthetic agri-chemicals took over.

Today, it is still used to replace increasingly expensive, finite, fossil fuel - derived chemicals, and is harnessed for its natural and sustainable qualities.

Wood vinegar, technically called pyroligneous acid, is a natural amber liquid produced through the act of carbonisation during charcoal/biochar production. Chad Sheppard is the first to bring this technical approach to the agriculture of Australia, through Wood Vinegar Australia and its brand PyroAg.

'When we first started five years ago, I was really interested in producing biochar because it was all over the news as one of ways to reduce climate change,' Chad says.

'I saw that a lot of Asian companies use the by-products from biochar, like wood vinegar, in agriculture and saw these small area farmers who couldn't afford all the synthetic fertilisers, herbicides and pesticides get great results. That was really where my interest started.

'Japan and other Asian countries have used wood vinegar successfully in all sorts of ways, but particularly as a replacement for synthetic agri-chemicals. But the food industry also uses pyroligneous acid extracts as a smoke flavour additive to

foods, meats and sauces.' Wood Vinegar Australia is the first of its kind to sell this product produced within Australia.

'It is a natural and sustainable product. It isn't mined from the ground, it isn't going to run out because it's made from all different types of biomass that do not compete with existing industries - the production and use is environmentally positive.'

Biomass is organic matter derived from living or recently living organisms. For wood vinegar, it is plant or plant-based materials.

Wood Vinegar Australia products are produced on the Central Coast and transported to a factory in Sydney where they are bottled and packaged.

'Our biomass is from farmers, processors and timber industries within our bio-region.'

Wood vinegar is made when the organic biomass is heated in an oxygen reduced environment leading to the thermal decomposition of materials and release of gases, called pyrolysis. This exhaust smoke is condensed (cooled) into a liquid. The condensate then further separates and is refined into tar, wood vinegar and bio-oil.

'All of these by-products are used in one way or another and nothing is wasted,' Chad says.

Chad explains that the equipment used for production includes basic metal drums and in ground firepits covered in clay mud with cooled bamboo chimneys. throughout small villages in Asia.

'While in Australia, there are industry leading, high tech, industrial processes that are completely controlled and continuously



Macadamia shells (top) when processed are converted into Biochar (bottom).



The packaged and labelled bottle of PyroAg Wood Vinegar.

convert biomass.' Chad describes the industry as just starting to grow in Australia.

'It is a growing organic and

sustainable supply source that can possibly reduce our dependency on expensive agri-chemicals, improve seed germination and allow for a

NATURAL FARMING - Wood vinegar has many uses

better uptake of chemicals, giving economical benefits.'

Wood vinegar has many different uses, including increasing microbial activity in soil. Wood vinegar is added to the soils to create good crop performances where the bacteria, fungi and other microbes unlock the existing soil nutrients.

'We see it improve plant health, produce darker green leaves for better photosynthesis and increased sugar conversion for soil microbes, thicker and stronger stems, higher growth rates and yields, increased fruit sugar content, and the plants become naturally more resistant to disease,' Chad explains.

'Seed germination is a great benefit of the vinegar. It is the same process that occurs with plant regrowth after a bushfire, it is the trigger of the heat and smoke chemicals that are contained within wood vinegar.'

Chad explains that animal

stockfeed is another example of what wood vinegar can be used for, benefiting chicken intestinal health, meat and egg production.

'The main thing we try to promote is that it can work synergistically for a better outcome as opposed to the specific effectiveness of a certain element. For instance, it is more effective to use the wood vinegar with other products, such as fertilisers and compost,' Chad says.

'The liquid needs to be used in only small economical quantities and is diluted with water. This easily fits into existing farming applications of foliar spraying, fertigating and soil drenches.'

'We are getting broad interest around Australia from large commercial broadacre cropping in SA to smaller macadamia farms in northern NSW as well as more specialised growers like native bush foods, vineyards and hydroponics,' Chad says. ■



Chad Sheppard shows off his wood vinegar and the charcoal used to create it.

Animal Training Systems

Working Dog Specialists since 1996

DT Systems Micro iDT Plus

800m range
Add up to 3 dogs
Rechargeable collar
Handset: 9v battery
Add-a-collar \$220
2 Year Warranty
\$460 \$440



Solar Snake Repellers - Dual Pack

Solar powered rechargeable battery
Vibration & sonic sound
External battery door
Buy in Bulk & Save
Free Freight
6 Month Warranty
\$85 \$72 Pair



DT Systems H2O 1820 Plus

1600m range
Add up to 3 dogs
Fully rechargeable
Toughest collars
Add-a-collar \$250
2 Year Warranty
\$680 \$650



Sportdog 10R Bark Control Collar

Medium-large dogs
Waterproof
Rechargeable
10 levels
3 Modes
3 Year Warranty
\$229 \$209



PetSafe Stubborn Dog Fence System

1 Stubborn collar
1x150m roll of wire (1/3 acre)
10 acres capacity
Extra wire \$69 roll
Training flags
3 Year Warranty
\$399 \$359



DT Ultra Min-E Bark Control Collar

Small-large dogs
Waterproof
Repairable
6 volt battery
8 levels
2 Year Warranty
\$170 \$140



Ph: 1800 688 221

PO Box 153 Margate Beach Qld 4019

www.animaltrainingsystems.com.au

Use of electrical device upon an animal is regulated by relevant State legislation

