

RECYCLING WASTE INTO BIOCHAR

A sustainable and economic wastewater filter and fertilizer for the agricultural industry



"This project focused on a waste-treating-waste approach, to provide a closed-loop application model that agricultural industries worldwide can use to minimise their environmental impact."

- Minh Nga Nguyen, Australia

Closed-loop model



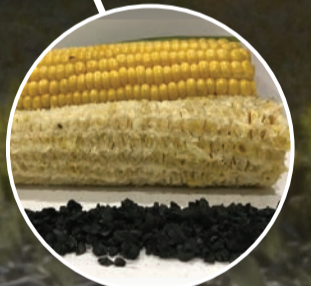
Reapply used biochar filters as crop fertiliser

The wastewater nutrients the biochar filters adsorbed are released into soil, with biochar transferring nutrients from where they are polluting to where they are valuable.



Recycle crop waste products into biochar

The wastes from the biochar-fertilised plants make the next generation of biochar. This prevents these wastes (eg. Corn cob) from polluting the environment.



Apply simple biochar filter systems for livestock wastewater

This project engineered a model of biochar filtration that treated wastewater to meet Australian standards in the most time and cost efficient manner.



Engineered model to treat livestock waste

- › Filtration rate: 5.5m³ wastewater/1m² surface area of filter per day
- › Amount: less than 7kg of biochar/m³ wastewater
- › Detention time in filter column/s: 1 hour
- › Running time: 36 hours

Benefits

- › Strong filter capacities can prevent water pollution
- › Multiple uses increasing cost-efficiency and productivity
- › Sustainable as recycles wastes
- › Practical for can be easily used by farmers in simple decentralised systems