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TREE CONSULTANCY

Barrell On... Rediscovering the multiple benefits of biochar

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## Barrell On... *Rediscovering the multiple benefits of biochar*



Amazon basin soils are often poor and once the forest has been slashed and burned they become increasingly unproductive, driving people to slash more and burn more.

Thus the relentless cycle of exploitation perpetuates, gradually destroying all our prospects for a sustainable future. Perhaps inevitable, but a solution may be beneath the very feet of those most in need, just waiting to be rediscovered.

For centuries before Europeans first set foot in South America in 1492, "lost" civilisations made poor land more productive by engineering the soil. These man-made super-soils, termed "terra preta" or "dark earth", are so productive that locals mine them to sell and scientists praise their properties. One of their main ingredients is slow-burned charcoal, or biochar.

A pure form of charcoal created during a process called pyrolysis, biochar has multiple beneficial properties for plants and the environment. The impurity-free carbon micro structures that remain after pyrolysis have a vast surface area with many voids, so they retain water. They are also perfect habitat for beneficial microorganisms that make plants grow better, with increased pest and disease resilience as a bonus. Furthermore, biochar carbon is stable in soil for centuries, making it an effective means of sequestration.

In Sweden, Stockholm uses biochar in its successful tree-planting formula. In 2014, the city received the Bloomberg Philanthropies Award for converting residential green waste into biochar, which is then used to help new trees thrive, with the energy generated during pyrolysis redistributed as community heating.

Most exciting of all, UK research by Dr Glynn Percival ([www.bartlett.com](http://www.bartlett.com)) reveals that biochar may be beneficial in controlling ash dieback disease, for which there is currently no cure.

It seems that the proverb "there's nothing new under the sun" holds true for biochar. It's not new, it's just been lost for 500 years.

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