State of the World 2009

Farming and Land Use to Cool the Planet

"Interestingly, between 500 and 2,500 years ago Amerindian opulations added incompletely burnt biomass to the soil. Today, Amazonian Dark Earths still retain high amounts of organic carbon and fertility in stark contrast to the low fertility of adjacent soils.

There is a global production potential of 594 million tons of carbon dioxide equivalent in biochar per year, simply by using waste materials such as forest and milling residues, rice husks, groundnut shells, and urban waste. Far more could be generated by planting and converting trees. Initial analyses suggest that it could be quite economical to plant vegetation for biochar on idle and degraded lands, though not on more highly productive lands.

Most crops respond with improved yields for biochar additions of up to 183 tons of carbon dioxide equivalent and can tolerate more without declining productivity. Advocates calculate that if biochar additions were applied

at this rate on just 10 percent of the world’s cropland (about 150 million hectares), this method could store 29 billion tons of CO2-equivalent, offsetting nearly all the emissions from fossil fuel burning."

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