



Carbon Optimised
Agroforestry

Biochar and Healthy Soils

The current degradation of biodiversity and soil fertility has led to increasing calls internationally to “reverse the direction of travel” of global agriculture from degenerative to regenerative approaches. Sustainable farming is dependent on soil organic carbon (SOC), which maintains soil health and affects productivity. SOC is often below optimum levels in major soil types. To increase agricultural productivity while securing and enhancing natural resources, innovative systems are needed, which should comprise advanced farming systems and agronomy practices.

“Agriculture directly supports the livelihoods of 2.6 billion people worldwide and is increasingly threatened by degradation, with 52% of all land used for food production moderately or severely impacted by the loss of healthy soil. United Nations (n.d.). Goal 15:”

Commonly used approaches to improve SOC require a longer duration to show impacts, such as cover crops, rotations, fast-growing legumes, incorporation of crop straw and organic manure, the introduction of nitrogen-fixing trees, and reduced tillage.

An alternative to these approaches is the application of biochar, which is demonstrating the potential to enhance carbon sequestration, soil productivity, and carbon stabilization and to reduce greenhouse gas emissions compared to raw amendments of organic wastes and plant residues.

Carbon dioxide emissions from biochar soils were found to be three-fold lower than those treated with raw residues. Studies have demonstrated improvement in SOC content with the application of biochar. Biochar is, therefore, a potentially valuable addition to ways of bringing down GHG emissions because it effectively stabilizes photosynthetic carbon and reduces the open burning of crop residues (slash and burn practices).



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Biochar is a recalcitrant charcoal created from pyrolysis of biomass at high temperatures (300-700 °C) and used in many capacities. In the agriculture sector, its most prominent uses have been as an animal feed and as a soil amendment. When biochar is added to agricultural soils, it can increase crop yield by enhancing soil hydrological and nutrient properties. (BiCRS)

RCA Carbon, is a premium regenerative coconut agroforestry project developer, deploying tropical intercropping techniques to amplify landscape productivity and optimise waste biomass by conversion to biochar.

For more information please contact us: info@rcacarbon.com



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