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Multistrata Agroforestry for Carbon Drawdown



Fazenda da Toca is a 5,700 acre farm in Itirapina, Brazil, employing regenerative agroforestry practices.

By creating an agricultural system that mimics the forests, they have been able to regenerate sandy dirt into rich loam, create in farm fertility without the use of compost or manure, and greatly increase water retention.

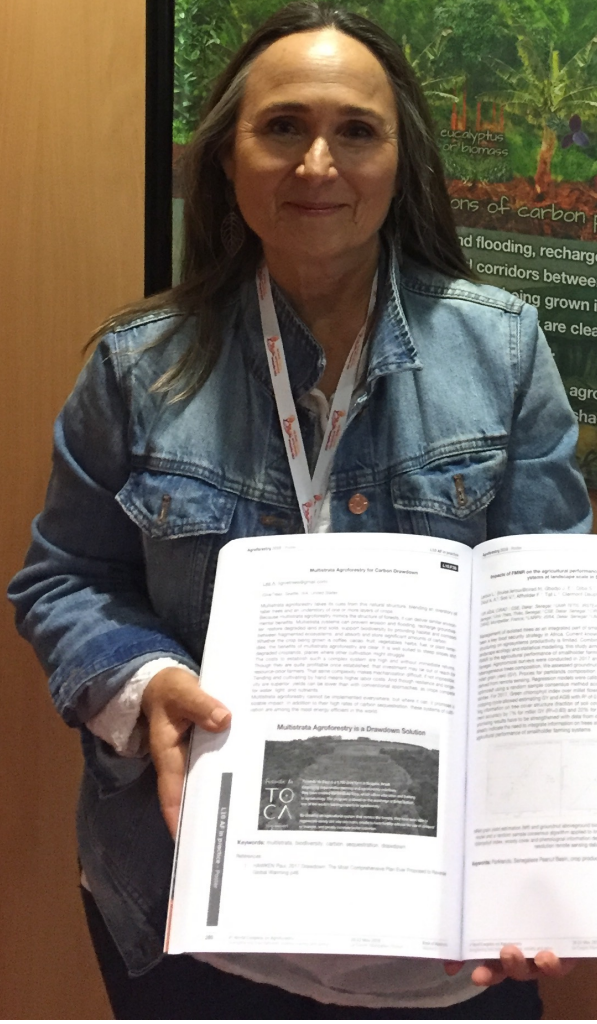
Multistrata agroforestry takes its cues from this natural structure, blending an overstory of taller trees and an understory of one or more layers of crops. Because multistrata agroforestry mimics the structure of forests, it can deliver similar environmental benefits.

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...agroforestry in the world, primarily in the tropics. ... shade-grown varieties of two of the world's most

Photo: Pedro Daviz, www.2009FazendaToca.com
Contract: Scott Paul Hansen, www.drainbow.com
Environmental Art Collaborator: Alana Lisa, www.alanalisa.com



Multistrata Agroforestry for Carbon Drawdown

Abstract

Keywords: agroforestry, carbon sequestration, regenerative agriculture, soil health, biodiversity, food security, climate change.

Multistrata Agroforestry as a Sustainable Solution

TOCA

Abstract

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Multistrata Agroforestry for Carbon Drawdown

Fazenda da
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Fazenda da Toca is a 5,700-acre farm in Itirapina, Brazil, employing regenerative farming and agroforestry practices.

By creating an agricultural system that mimics the forests, they have been able to regenerate sandy dirt into rich loam, create in-farm fertility without the use of compost or manure, and greatly increase water retention.

Multistrata agroforestry takes its cues from this natural structure, blending an overstory of taller trees and an understory of one or more layers of crops. Because multistrata agroforestry mimics the structure of forests, it can deliver similar environmental benefits.

fruit trees

grass mulch grown in situ

eucalyptus for biomass

banana biomass

fruit crops

fruit trees

One acre can sequester 2.8 tons of carbon per year while also producing food.

Multistrata systems can prevent erosion and flooding, recharge groundwater, restore degraded land and soils, support biodiversity by providing habitat and corridors between fragmented ecosystems, and absorb and store significant amounts of carbon. Whether the crop being grown is coffee, cacao, fruit, vegetables, herbs, fuel, or plant remedies, the benefits of multistrata agroforestry are clear. It is well suited to steep slopes and degraded croplands, places where other cultivation might struggle.

At present there are almost 250 million acres of multistrata agroforestry in the world, primarily in the tropics. That number has held steady in recent decades. It includes shade-grown varieties of two of the world's most beloved goods: coffee and cacao (for chocolate).

Still life - Albert Eckhout
Photo - Pedro Diniz www.fazendatoca.com
Abstract Text - Paul Hawken www.drawdown.org
Environmental Art Collage - Alana Lea www.alanalea.com

