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Brazilian Soils: food, fuel and beyond

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In broad literature texts, Brazilian soils are usually presented at a generalized scale, where predominate the so-called tropical soils, characterized by strongly weathered and deep soil profiles where nutrients were mostly depleted by intense soil genesis processes under a humid climate with high temperatures. However, the agricultural production statistics places the country among the world's largest exporter of coffee, soybeans, beef, and crop-based ethanol. Technologies such as the nitrogen biological fixation and no-tillage system, developed to take in account the characteristics of Brazilian soils in areas of Cerrado (Central region of Brazil) and south and southern states, allowed for the success of grain crops. It is also relevant in the country family farm agriculture, which accounts for about 70% of the food that comes to the table of Brazilians. The Brazilian forestry sector has made, in a short time, remarkable progress, mainly with eucalypt plantation (area of 5.7 million hectares). More recently, systems such as agroforestry, crop-livestock-forestry integration, agroecology and organic farms production are growing. However, the Brazilian soils also have an important function in terms of the biomes and ecosystems, some that are unique to the country, they support. These are divided in morphoclimatic domains or biomes, among them: the Amazonian rain forest, the largest continuous tropical forest in the world; the Atlantic forest, one of the world's top biodiversity hotspot from the coastal mountains to inland plateaus; the Araucaria forest, in the southern part of Brazil under a more temperate climate; the Cerrado, covering a large region with low-density forest vegetation and grasses; the Caatinga, a unique environment in the northeast part of Brazil, with species adapted to long dry periods; the Pantanal, a swampy land in the central and western parts of the country rich in biodiversity; the Pampas, native grasslands in the extreme south of the country extending to Argentina and Uruguay; and the Mangues, the shoreline vegetation represented by manglars and mangroves. Each of these domains, defined by landscapes, climate, vegetation and soils, also result in exclusive aspects of the local population, revealed in their arts and beliefs. Thus, Brazilian soils and the ecosystems they support are very rich in terms of biodiversity, culture, and agriculture. The sustainable management of these soils is key to the country and to the world food security.

Keywords: SiBCS; Pedodiversity; Brazilian biomes.



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