
Productivity and uses of tree species in cocoa based agroforestry systems

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Abstract

Many plant species grow spontaneously in cocoa systems or can be deliberately introduced to provide many services and products to producers. This study was conducted in Nkolo-Bang and Ngat (Centre Region of Cameroon) and the main objective was to evaluate the productivity and uses of these species in cocoa agroforest systems. More specifically, it was to identify the different tree species other than cocoa trees present in cocoa agroforest systems, to identify products and uses of these species, to determine the seasonalities, frequencies and the annual quantity produced, to determine the motivations of producers to associate species to cocoa trees and the importance of these species. The results from inventory reveal that 5834 fruit trees and 564 forest trees from belonging to 39 species and 23 families exist in the study zone. The Sorensen index gave a value of 0.55 reflecting 55% probability chance to find the same species in both areas. Diversity index values: Shannon are 2.15 bit in Nkolo-bang and 2.66 bits in Ngat; Simpson are 0.217 in Nkolo-bang and 0.096 in Ngat; Equitability are 0.26 in Nkolo-bang and 0.314 in Ngat; and show a strong floristic diversity. The products from associated species fruits (56%), leaves (17%), Wood (11%); bark (6%), seeds (5%), wine (5%). Seasons of production of different species differ from one area to another. Some products such as fruits have dual and single frequencies of production; those which have a double frequency have 33% and those which have single production have 67 %.

Keywords: Agroforestry Systems, Agroforest, Productivity, Seasonality, Cameroon

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