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BOOK OF ABSTRACTS



- Agronomy
- Chemistry
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- Physiological effects
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Using local knowledge to identify shade tree species that best suit farmer's needs in coffee farms in Western highlands of Cameroon

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RATIONALE

Until the 80's, arabica coffee was the main commodity crop in Western highlands of Cameroon, but the culture has been almost entirely abandoned after forty years of low coffee prices (Uwizeyimana, 2009). The H2020 BREEDCAFS project (<https://www.breedcafs.eu>) aims at reviving the coffee sector via the introduction of new F1 hybrid coffee varieties well-suited to agroforestry systems, high-yielding and producing a high cup quality. Within this project, this study supports the design of coffee-agroforestry systems matching farmers' needs and adapted to local conditions.

METHODS

The study followed the Shade Tree Advice methodology, based on coffee farmers' local ecological knowledge of shade tree species (Van der Wolf et al 2016). Farmers' needs were identified through interviews. Associated shade tree species were listed through on-farm tree species inventories. Shade tree species performances were collected through interviews of farmers and rankings, of which around 100 were assessed in five geographical divisions (Noun, Bamboutous, Menoua, Nde and Grand Mifi) of the West region of Cameroon.

RESULTS

The 10 most important criteria for shade tree species selection were: 1) fruit production, 2) coffee-fertilizer saving, 3) timber production, 4) production of a third crop beneath shade trees and coffee, 5) impact on coffee yield, 6) reduction of coffee bi-annual production pattern 7) protection of coffee from anthracnose, 8) minimal need for pruning, 9) use in traditional medicine, 10) shading that improves working conditions. Meanwhile, 35 tree species were identified in coffee farms through the inventories, and the resulting agroforestry advices are available online on www.shadetreeadvice.org.

CONCLUSIONS & PERSPECTIVES

This study provides a user-friendly tool to support coffee farmers in their selection of shade tree species (Van der Wolf et al, 2016). On a local scale, this tool will contribute to promote the conservation of both economic and indigenous tree species as well as support efforts to revive the coffee sector in Western highlands of Cameroon through the development of sustainable agroforestry practices with the most performant Arabica varieties.

References:

- UWIZEYIMANA Laurien, «Après le café, le maraîchage ? Mutations des pratiques agricoles dans les Hautes Terres de l'Ouest Cameroun», Les Cahiers d'Outre-Mer, 2009, 331-344.
- VAN DER WOLF Just, JASSOGNE Laurence, GRAM Gil, VAAST Philippe, «Turning Local Knowledge on Agroforestry into an Online Decision-Support Tool for Tree Selection in Smallholders' Farms», Experimental Agriculture, 2019, 50-66.