



Tropentag, October 9-11, 2007, Witzenhausen

“Utilisation of diversity in land use systems:
Sustainable and organic approaches to meet human needs”

Dadobat-Development and Domestiation of Baobab and Tamarind

SITSKE DE GROOTE, EMMY DE CALUWÉ, PATRICK VAN DAMME

University of Ghent, Faculty of Bio-Engineering Sciences, Laboratory for Tropical and Subtropical Agronomy and Ethnobotany, Belgium

Abstract

Both baobab and tamarind are plant species with high potential for arid and semi-arid areas in the developing world. They can provide food, medicine, wood and a number of secondary processed products for income generation that can help to meet basic needs of an increasing number of people in a context of decreasing land availability. The strategic overall objectives of the project that will be addressed through a multi-pronged and multi-disciplinary research approach are: evaluation and characterisation of germplasm collected in four African countries in different ecological zones (Benin, Ghana, Mali and Senegal); eco-physiological characterisation of field and greenhouse-grown material; domestication of superior germplasm material; development of adapted cropping techniques; development of adapted plant material for introduction into (traditional and improved) agroforestry systems; evaluation of nutritional/medicinal composition of different plant parts; improvement of processing/transformation of the species' products; and development of (inter-) national marketing strategy. The project addresses issues of new crop/niche development through a holistic research approach and envisages multidisciplinary activities to broaden availability of improved plant material for introduction into agroforestry systems.

The project combines activities of research, capacity building and transfer to bridge the gap between knowledge to successful application of the results by the end users. The work plan is divided into 6 work packages and a documentation and information dissemination work package.

1. Field characterisation of plant material over different agro-ecological zones in the 4 countries, and match macroscopic characterisation using 'traditional' descriptors with results of molecular fingerprinting;
2. Eco-physiological characterisation of plant material for understanding drought stress tolerance/resistance *in situ* and *ex situ*;
3. Domestication: determination of optimal germination conditions and maximum germination rates;
4. Development of improved cropping techniques: pruning, irrigation, fertilisers, etc.;
5. Characterisation of nutritional and medicinal properties of primary and secondary products;
6. Production and marketing chain analysis, including socio-economics and SWOT analysis.

Keywords: Agroforestry, baobab, domestication, ethnobotany, genetic fingerprinting, market chain analysis, tamarind