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"Development on the margin"

Introduction and Adoption of Improved Cassava Varieties by Smallholder Farmers on the Island Idjwi in the Democratic Republic of Congo

Bolonge Pierre Epampuka[1], Kamondo Bertin S[2], Stephan Winter[3]

[1] *Programme Intégré de Développement Rural (PIDR), Congo, The Democratic Reublic*
[2] *Centre de Promotion Rurale à Idjwi (CPR), Congo, The Democratic Reublic*
[3] *Leibniz-Institut, German Collection of Microorganisms and Cell Cultures Gmbh, Plant Virus Department, Germany*

Abstract

The island Idjwi in Lake Kivu is a densely populated area where 260 000 inhabitants live on 310 km^2 land area. Cassava is the main diet for the rural population and thus cassava based cropping systems predominate in an agriculture of smallholders (<0.5 ha) farming on remote and marginal lands with almost no access to agricultural inputs. Crop improvement and resource management are essential for increasing crop productivity and since cassava cultivation on the island is seriously menaced by Cassava mosaic disease (CMD), introduction of improved cultivars was the most immediate intervention to enhance cassava production at Idjwi. To reflect farmers' needs and awareness the rural communities were involved from start of the activities. Adaptation trials with 11 improved cultivars selected on the basis of their CMD resistance and other agronomic traits were set up at 3 sites on the island. Farmers associations were implicated in multiplication and varietal evaluations of the cassava cv. Mayombe, Nsansi, Mvuazi, Namale, Butamu, Disanka, Liyayi, TMS 96/0730, Sadisa, Sawasawa, TME419 and the local cultivar Nambiombio. The assessment of the harvest after the first year of cultivation showed that the cultivar Mayombe outperformed other cassava lines at all sites, essentially remaining free of virus symptoms, showing vigorous growth and high yield. Remarkable differences (root number & weight) were recorded for the cultivars indicating differences in soil fertility. Interestingly the local cultivar Nambiombio also performed well confirming that the health status of planting material strongly determines productivity of cassava cultivation. This model of community involvement in vulgarisation of improved varieties will continue and scaled up to reach more farmers. However already at this stage it can be concluded that the yield potential of the new cassava cultivars cannot be attained by subsistence farming thus successful adoption of improved cultivars require agronomic inputs, good farming practices and resource management.

Keywords: Improved cassava genotypes, introduction and adaptation to subsistence farming, virus resistance

Contact Address: Stephan Winter, Leibniz-Institut, German Collection of Microorganisms and Cell Cultures Gmbh, Plant Virus Department, Messeweg 11/12, 38102 Braunschweig, Germany, e-mail: stephan.winter@jki.bund.de