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ROOT CROPS IN EASTERN AFRICA

Proceedings of a workshop held in Kigali, Rwanda, 23-27 November 1980

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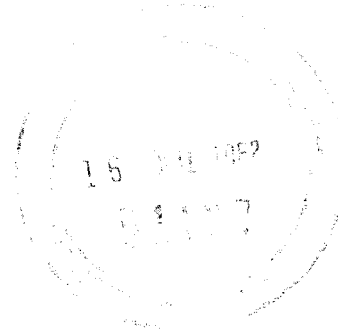

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Résumé

Cette brochure traite principalement des deux tubercules alimentaires les plus importants en Afrique orientale, soit le manioc et la patate douce. Quelques communications portent sur la pomme de terre, l'igname, le taro et l'« enset » dont la consommation est considérable dans plusieurs pays de la région. Le rendement de ces cultures est limité par de nombreux facteurs. Aussi, la recherche effectuée dans le cadre de programmes agronomiques nationaux et internationaux est-elle orientée vers la correction de cette situation en Afrique. Les difficultés rencontrées en cours de travaux et les progrès réalisés sont décrits par des représentants et des consultants de l'Institut international d'agriculture tropicale d'Ibadan (Nigéria) et d'autres pays tel que le Cameroun, le Kenya, l'Ouganda, le Malawi, le Zimbabwe, l'Éthiopie, le Burundi, le Zaïre et le Swaziland.

Resumen

Esta publicación se enfoca en la mandioca y el camote — los cultivos de tuberosas más importantes del Africa oriental. Los trabajos tratan también del *Solanum tuberosum*, *Dioscorea* spp., *Colocasia* sp., *Xanthosoma* sp., y *Enset* sp., que son todos cultivos importantes a los países de esta región. La producción de cada uno es restringida por serios constreñimientos, y el alivio de éstos es el objetivo de varias investigaciones llevadas a cabo por los programas agrícolas nacionales e internacionales en el Africa. El progreso hacia y los problemas encontrados en llegar a este fin son delineados por especialistas representando al Instituto Internacional de Agricultura Tropical en Ibadan, Nigeria, y a los países de Camerún, Kenia, Uganda, Malawi, Zimbabwe, Etiopia, Burundi, Zaire, y Swazilandia.

Contents

Cassava mosaic disease

E.J. Guthrie[1]

A geminivirus has been isolated from cassava infected with cassava mosaic disease (CMD) on the Kenyan coast; it is related but distinct from an earlier isolate from western Kenya and requires different procedures for isolation. This newly isolated virus is probably a causal agent of CMD in eastern Kenya, although it may not be the sole cause.

Un virus bivalent a été isolé sur des plants de manioc atteints de mosaïque, sur la côte du Kenya; il s'apparente, bien que distinct, à un virus déjà isolé dans l'ouest du pays ; cependant, on ne réussit à l'isoler qu'au moyen de techniques différentes. Ce nouveau virus pourrait être l'un des agents responsables de la maladie dans l'est du Kenya.

In Kenya, a geminivirus was isolated from cassava into *Nicotiana clevelandii* (Bock et al. 1978). As the virus was apparently confined to western Kenya and could not be isolated from cassava infected with mosaic disease (CMD) at the coast, it was referred to as cassava latent virus (CLV).

More recently, a geminivirus has been obtained from CMD-infected cassava at the coast, *N. benthamiana* being the isolation host. The method of purification necessary differed from that used in isolation of the virus from west Kenya, and serological tests show the two isolates to be related but distinct. A CMD isolate from Nigeria was apparently identical to the west Kenya type.

It seems possible that the newly isolated geminivirus is the causal agent of CMD, although the existence of another component cannot be ruled out.

Cassava originated in the New World, where CMD does not occur — a fact that suggests that there is an alternative host or hosts for the virus in Africa. The virus has recently been isolated from *Jatropha multifida* (Euphorbiaceae) and *Hewittia sublobata* (Cucurbitaceae); *H. sublobata* is widespread in the Old World tropics and may well prove to be significant in the ecology of the disease.

The available information on the distribution of the two strains of CMD is in line with theories that cassava arrived in East Africa by two routes: to the west from West Africa and to the coast from the offshore islands. Further sampling, particularly in Tanzania, would be instructive.

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