

# CONSERVATION AND EVALUATION OF TUBER CROPS GERMPLASM IN KERALA

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## SUMMARY

Germplasm collections of *Manihot*, *Ipomoea*, *Dioscorea*, and various Aroids are maintained at Kerala University. *Manihot* species have been extensively evaluated and hybridized and polyploids produced.

Sweet potato is under improvement. Interspecific hybridization of *Dioscorea* spp. is in progress and good edible cultivars of *D. alata* are being multiplied for release. Various aroids are under evaluation.

## RESUME

Les collections de plasm germinatif de *Manihot*, *Ipomoea*, *Dioscorea* diverses aroidées sont entretenues à l'Université de Kerala. Les espèces du *Manihot* ont été l'objet d'une évaluation et d'une hybridation intenses, ce qui a permis la création de polyploides.

La patate douce est en voie d'amélioration. L'hybridation d'espèces de *Dioscorea* spp. est en cours et de bons cultivars comestibles de *D. alata* sont en train d'être multipliés en vue de leur popularisation. Diverses aroidées sont en cours d'évaluation.

## RESUMEN

En la universidad de Kerala se mantienen *Manihot*, *Ipomoea*, *Dioscorea* y varias Aráceas. Se han evaluado extensivamente e hibridado especies de *Manihot* y se han producido poliploides.

El camote se encuentra bajo mejoramiento. Se está llevando a cabo la hibridación interespecífica de *Dioscorea* spp. y se están multiplicando, para su liberación, cultivares comestibles de *D. alata*. Varias aráceas se encuentran bajo evaluación.

## GERMPLASM COLLECTION

As a result of exploration and introduction work conducted during the past three decades, a germplasm collection of 633 accessions of root and tuber crops belonging to 22 species of the genera *Manihot*, *Ipomoea*, *Dioscorea*, *Amorphophallus*, *Coleus*, *Curcuma*, *Zingiber* and *Maranta* including their wild species has been assembled in the experiment station attached to the Department of Botany, University of Kerala, Kariyavattom, Trivandrum.

Extensive evaluation studies of these crops have revealed enormous variability among the genetic stocks which makes it possible to select directly valuable phenotypes for use in breeding programmes intended to develop hybrid clones suited to Indian conditions.

Among these tuber crops, cassava is the most important in South India while sweet potato, yams and aroids are more popular in Northern and Eastern India. It is estimated that the area of cassava is about 0.7 million acres, sweet potato and yams each 0.5 million acres.

## CASSAVA PROGRAMME

Cassava is grown in 9 states, Kerala, Tamil Nadu, Andhra Pradesh, Mysore, Assam, Meghalaya, Tripura, Orissa and Maharashtra. The first two of these are the most important. In Kerala alone 10 percent of the cultivable land is under this crop, and this accounts for 90 percent of the total production of cassava in India. Kerala, with its tropical climate and well distributed rainfall, is pre-eminently suited for the cultivation of this crop.

Cassava was introduced into India by the Portuguese during the latter half of the 17th Century. One of the Maharajas of Travancor (now known as Kerala State), Sri Visakom Thirunal Maharaja was personally responsible for popularising this crop in Travancore. Cassava can produce large amounts of food with low inputs on fertile land and has gained a reputation as a useful famine relief crop.

Three hundred and eighty three accessions of cassava are maintained in the experimental station of the Department. Our collection includes interspecific hybrids of *Manihot esculenta* Crantz, x *M. glaziovii* M.

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