

A COLLECTION OF WEST AFRICAN YAMS

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SUMMARY

Yams collected in West Africa in 1971 are being intensively evaluated, and multiplied for distribution. Two seasons of observations have revealed important differences in disease resistance, seasonal responses, and yield potential. Preliminary selections have been made of cultivars suitable for distinct purposes, including mechanization. A comparison of accessions of the *rotundata-cayenensis* complex using methods of numerical taxonomy is expected to clarify the interrelationship between the two species. Virus diseases constitute the most serious problem found in the collection. Selected, disease-free cultivars will eventually be available for pantropical distribution.

RESUME

Des ignames collectionnées en Afrique Occidentale en 1971 sont en cours d'évaluation intensive et sont multipliées pour être popularisées. Deux saisons d'observation ont révélé d'importantes différences de résistances aux maladies, de réponses saisonnières et de potentiel de rendement. Des sélections préliminaires de cultivars adaptés à des buts spécifiques, dont la mécanisation, ont été entreprises. On escompte que la comparaison de variétés du complexe de *rotundata-cayenensis* permettra, en utilisant la méthode de taxonomie numérique, de clarifier l'interrelation entre les deux espèces. Les viroses constituent le problème majeur que comporte la collection. On finira par obtenir des cultivars sélectionnés et indemnes de maladie qui seront distribués à travers les tropiques.

RESUMEN

Ñames colectados en Africa Occidental en 1971 están siendo evaluados intensivamente y multiplicados para su distribución. Las observaciones de dos temporadas han revelado importantes diferencias en cuanto a resistencia a enfermedades, respuesta a la época de siembra y rendimiento potencial. Se han hecho selecciones preliminares de cultivares para distintos propósitos, incluyendo mecanización. Se espera que usando métodos de taxonomía numérica se puedan comparar introducciones de un complejo *rotundata-cayenensis* y se clasifique la interrelación entre las dos especies. Las enfermedades virales constituyen el más serio problema encontrado en la colección. Eventualmente, se podrán tener cultivares libres de enfermedades virales para su distribución en el trópico.

INTRODUCTION

Although yams are now grown throughout the wet tropics, the most important region of the world where they have become a staple crop, and where they continue to hold an important, if tenuous, role is in West Africa. The species *Dioscorea rotundata* and *D. cayenensis* were domesticated in this area. Although their cultivation is very old, they are sexually fertile which suggests that they are not ancient clonal species, and that evolution is continuing. This is very important for plant breeding. In addition to the commonly cultivated species, others, such as *D. dumetorum* exist as both wild and cultivated forms, and are used in times of special need. Entirely wild species that can be used for food are also found.

In West Africa, yam, the staple food crop is now being replaced in most regions by the easier-to-grow cassava. Rice is usurping it in the river valleys. The culture of the yam will change, and may disappear completely from some regions. Concern for the germ plasm of the African yams, and its potential for contributing to feeding the hungry people of the world led therefore to the sponsorship of an expedition in 1971 to collect West African yams in their regions of origin. The Food and Agriculture Organization of the United Nations, and the Department of Agriculture of the United States collaborated in this expedition.

Because time and money were limiting, the area could not be collected exhaustively, and some noteworthy gaps in the collection occur. Most of the collection was made through existing institutions which had themselves made collections for many years. Introduced as well as native cultivars were obtained. Tubers were sent to Puerto Rico where they have been extensively studied for two years. It is our intention to evaluate these West African yams, to select cultivars for special purposes, and to distribute selections throughout the tropics to places where they can best be utilized.

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