LATE BLIGHT RESISTANT VARIETIES  
FOR CAMEROON

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Abstract

In October 1992 the first three late blight resistant varieties developed under local conditions were officially released in Cameroon. This resulted from the first four years of research collaboration between the Institute of Agricultural Research (IRA) of Cameroon and the International Potato Center (CIP). The three varieties were selected from a group of 95 advanced clones sent by CIP in early 1988. The new varieties are well adapted to the highlands of the country, where late blight is the main pathological constraint on potato production. CIPIRA (CIP 381381.13) is a variety with white skin, as compared to TUBIRA (CIP 381406.6) and BAMIRA (CIP 720055) which have a red skin. These varieties have shown a consistent late blight reaction between 1-3 (scale of 1=immune to 9=highly susceptible) during the four years of field trial evaluations, a growing cycle of 90-125 days at elevations between 1,000-2,000 m, and an average potential yield of 30-40 ton/ha under low fertilizer inputs (60/60/40 kg NPK/ha). Seed will be available for distribution to farmers in late 1994, utilizing a basic seed production scheme based on mass production of rooted stem cuttings developed by the IRA/CIP Project in Cameroon.

Compendio

En Octubre de 1992 las tres primeras variedades resistentes a tizon tardio, desarrolladas bajo condiciones locales, fueron oficialmente lanzadas en Camerun. Esto ha sido como resultado de los primeros cuatro anos de colaboracion entre el Instituto de Investigaciones Agricolas de Camerun (IRA) y el centro Internacional de la Papa (CIP). Las tres variedades fueron seleccionadas inicialmente de un grupo de 95 clones avanzados enviados por el CIP a Camerun en 1988. Estas variedades estan bien adaptadas a las zonas montanosas del pais, donde el tizon tardio es la principal enfermedad que reduce los rendimientos. CIPIRA (CIP 381381.13) es una variedad de piel blanca, en comparacion a TUBIRA (CIP 381406.6) y BAMIRA (CIP

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Introduction

There are approximately 50,000 to 65,000 ha planted with potatoes each year in Cameroon. More than 65% of the total potato production comes from the North-Western highlands of the country. With few exceptions, the great majority of the potato varieties planted in Cameroon are highly susceptible to most diseases and pests, and they have been in the country for the past 25-40 years (pedigrees for most of them have been lost) (3, 5, 6).

Among the different diseases affecting potatoes in the country, probably late blight (*Phytophthora infestans*) is the most important and causing the greatest yield and economic losses. Farmers in some parts of the country (mainly West Province) apply fungicides up to 12 times in order to obtain acceptable yields. In most potato producing areas farmers try to escape late blight by planting early with the arrival of the first rains in March. However, this causes a concentration of potatoes in the market during June-July and prices drop substantially at farmer's level (3). Thus, late blight does not only affect production by lowering yields under field conditions but also by affecting market prices.

One of the most important subjects in the 1987 Agreement for Research Collaboration between the Government of Cameroon (Institute of Agricultural Research = IRA), and CIP included the introduction, evaluation and selection of genetic materials with different agronomic traits and resistances to the main pests and diseases. The need for genetic materials with late blight resistance was one of the main priorities from the starting point of the research collaboration.

During the first four years of this agreement more than 15,000 genotypes with different agronomic traits have been introduced and evaluated at different locations in Cameroon (CIP internal reports). Within the late blight research activities, 95 advanced clones were initially introduced in early 1988 from CIP's breeding program, although in successive years more than 10,000 genotypes were introduced and evaluated. This paper summarizes the research involved during four years in the development and re-