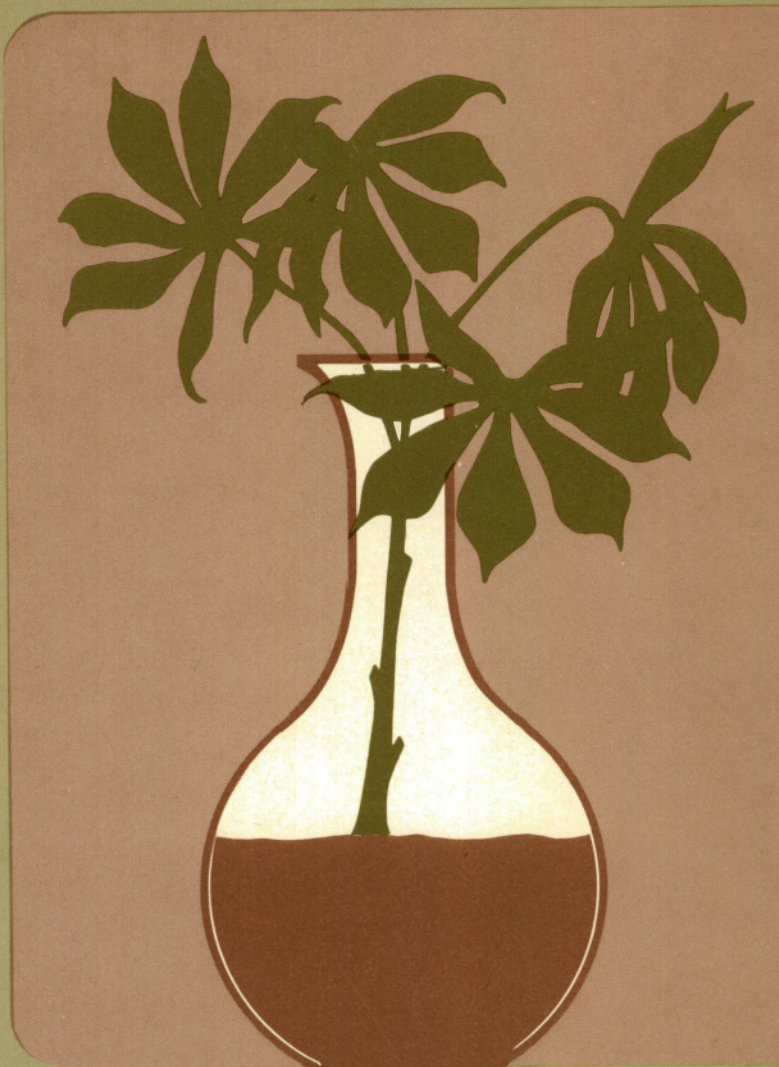


CASSAVA BACTERIAL BLIGHT

report of an
interdisciplinary workshop
held at
IITA, Ibadan, Nigeria,
1-4 November 1976.



Cosponsored by the
International Development Research Centre
and the
International Institute of Tropical Agriculture

Editors:
Gabrielle Persley
Eugene R. Terry
Reginald MacIntyre

©1977 International Development Research Centre
Postal Address: Box 8500, Ottawa, Canada K1G 3H9
Head Office: 60 Queen Street, Ottawa

Persley, G.
Terry, E.R.
MacIntyre, R.

IDRC

IDRC-096e

Cassava bacterial blight: report of an interdisciplinary workshop held at IITA, Ibadan, Nigeria, 1-4 November 1976. Ottawa, IDRC, 1977. 36p.

/IDRC publication/. Report of a workshop on the /cassava/ /bacteria/ /blight (CBB) /plant disease/ in /Africa south of Sahara/ — discusses the /diagnosis/ and /geographic distribution/ of CBB, influence of shade (/solar radiation/) and /intercropping/ on its incidence, /plant breeding/ for /disease resistance/; /disease control/ efforts in /Nigeria/, /Zaire/ and /Ghana/. Includes /bibliography/s, /list of participants/ and country statements from /Benin PR/, /Congo PR/, Ghana, and /Togo/.

UDC: 633.68

ISBN: 0-88936-143-6

Microfiche Edition \$1

IDRC-096e

CASSAVA BACTERIAL BLIGHT

**Report of an Interdisciplinary Workshop held at IITA,
Ibadan, Nigeria, 1–4 November 1976**

Editors: **Gabrielle Persley, Eugene R. Terry, and Reginald MacIntyre**

Cosponsored by the

International Development Research Centre
and the
International Institute of Tropical Agriculture

Contents

Foreword Barry L. Nestel	3
Participants	4
Theme Papers	
Diagnosis of cassava bacterial blight disease E.R. Terry	5
Distribution and importance of cassava bacterial blight in Africa G.J. Persley	9
Control of cassava bacterial blight in Nigeria W.N.O. Ezeilo	15
Cassava improvement in the Niger Delta of Nigeria G. Heys	18
Control of cassava bacterial blight in Zaire H.C. Ezumah and K. Sebasigari	20
Control of cassava bacterial blight in Ghana E.V. Doku and P. Lamptey	22
Breeding for resistance to cassava bacterial blight S.K. Hahn and A.K. Howland	23
Survival of <i>Xanthomonas manihotis</i> , the cassava bacterial blight pathogen Tunde Ikotun	24
Influence of shade and intercropping on the incidence of cassava bacterial blight O.B. Arene	28
Country Statements	
People's Republic of Benin (S. Gladjinon)	32
People's Republic of the Congo (J. Batsimba and J. Mabanza)	32
Ghana (S. Konang-Amoakah)	34
Togo (H.K. Olympio)	35
Concluding Statement by Participants	36

Control of Cassava Bacterial Blight in Ghana

E.V. Doku and P. Lamptey

Crop Science Department, University of Ghana, Legon, Ghana

Cassava bacterial blight (CBB) caused by *Xanthomonas manihotis* has devastated large fields of cassava in Nigeria and Zaire. It has recently been observed in Ghana, where it was first reported in September 1975 (Korang-Amoakoh, personal communication).

In view of its wide distribution and the socioeconomic problems that will occur if it is not controlled, it is important that steps be taken to control the disease. The ideal way is by the use of resistant varieties, but until such improved varieties become available, cultural control measures are necessary.

The disease is disseminated from one area to another and between countries and seasons mainly by the use of infected planting material. In Ghana, varieties within a locality are uniform and there is little exchange of cuttings between farmers. High incidence of the disease in a particular farm resulting from planting infected cuttings can occur. Rain splash is also an important means of dissemination in localized areas. The highest incidence is during the major rainy season.

Control Measures

Control measures are twofold: (1) preventing the disease from entering, spreading, and becoming established in a country; and (2) eradicating or minimizing effects of the disease after it has become established.

(1) Prevention

Where the outbreak is in a neighbouring country or has just been reported in a country, as in Ghana, the following precautions are suggested:

(a) Prohibit importation of cuttings into the country; seed may be introduced only through the phytosanitary authorities.

(b) For areas with two rainy seasons — a major and a minor — plant only in the minor season or toward the end of the major rains if minor rains are not reliable. For areas with one long rainy season, plant toward the latter part of the season. In both cases, plant early maturing, vigorous varieties.

(c) If areas near sources of infection have high rainfall, prohibit cassava planting in these areas or plant only resistant varieties. This can only be done if steps have already been taken to introduce and test resistant varieties, as has been done in Ghana. African countries that have not already started introducing seed of resistant varieties (e.g., from IITA) are urged to do so now to ensure against future outbreaks that are almost certain to occur.

(d) Where the disease is already present at the borders or is in isolated pockets, assessment of the level of resistance of varieties in different environments should be made by planting them on previously infected farms.

(e) In selecting resistant varieties, branching habit and general plant vigour should be rated highly because, should resistance per se break down, these morphological characters will minimize the effect of the disease through the production of new branches as older ones die and thus extend the productive life of the plant.

(2) Eradication

(a) Farmers should be taught to recognize the disease.

(b) CBB survey teams should be established to confirm reports of outbreaks and to do random checks on cassava farms.

(c) There should be no movement of cuttings within or from infected areas. Infected farms should be burned, fallowed for 2–3 yr, and crop rotation or mixed cropping with cereals and legumes practiced.

(d) A certified disease-free stock scheme should be established and controlled by the phytosanitary authorities.

(e) The normal peasant practice of wide spacing and intercropping should be encouraged. The best spacing of intercrops and intercropping systems for large-scale mechanized farms, which will maximize total yield per unit of intercropped area, should be found.