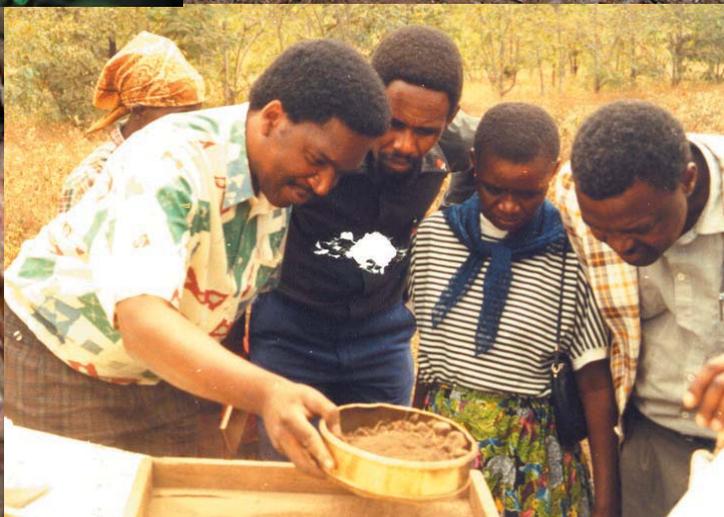
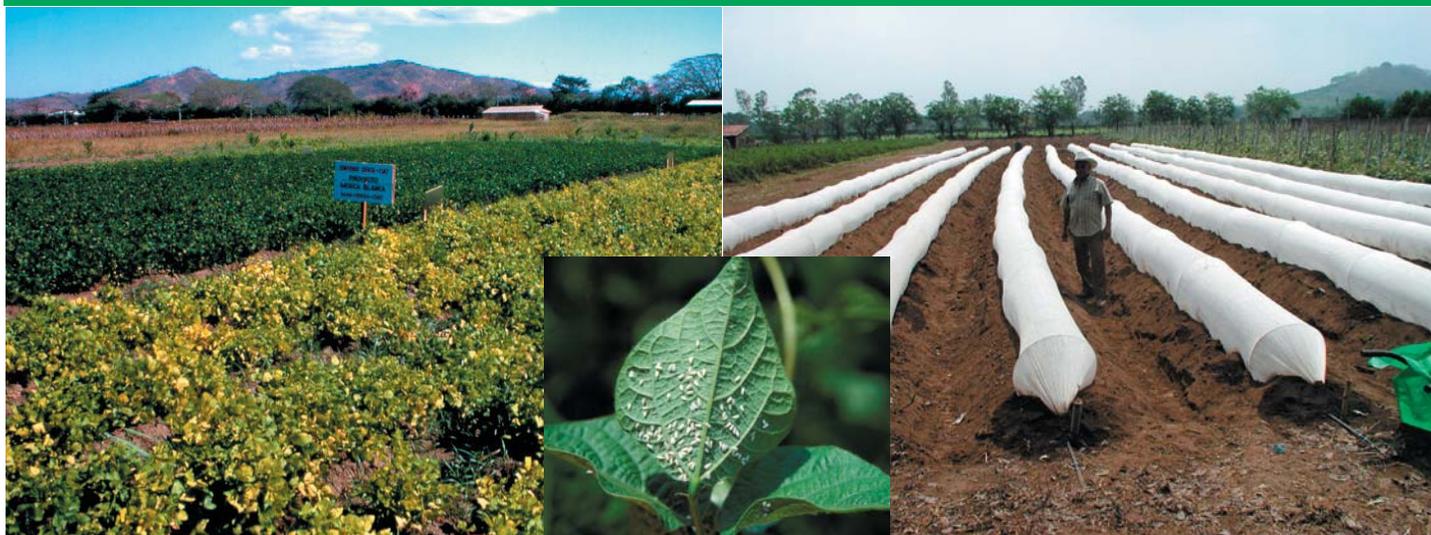


Integrated Pest and Disease Management in Major Agroecosystems



PROJECT - PE1
Annual Report 2003



CIAT

Centro Internacional de Agricultura Tropical
International Center for Tropical Agriculture



System - wide Programme on Integrated Pest Management

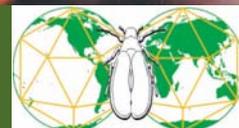


TABLE OF CONTENTS

SUMMARY (285 kb)

CASSAVA ENTOMOLOGY (1118 kb)

- Activity 1. *Arthropod taxonomic activities on CIAT commodity crops and others*
- Activity 2. *Identification and characterization of some fruit fly species in the departments of Valle del Cauca, Tolima and Quindío*
- Activity 3. *The identification and evaluation of homopteran species as possible vectors of Cassava Frogskin Disease (CFSD)*
- Activity 4. *Entomopathogenic nematodes: An alternative to Integrated Management of *Cyrtomenus bergi* Froeschner (Hemiptera: Cydnidae)*
- Activity 5. *Development and formulation of biological pesticide for integrated pest management in cassava*
- Activity 6. *Preliminary and basic studies of the whitefly predator *Chrysoperla carnea* (Stephens) (Neuroptera: Chrysopidae)*
- Activity 7. *The evaluation of genetically modified cassava on the development and survival of the cassava hornworm, *Erynnis ello**
- Activity 8. *Publications, book chapters, posters, conferences, training and consultancies*

Evaluating the Impact of Biotechnology on Biodiversity: Effect of Transgenic Maize on Non-Target Soil Organisms (228 kb)

- Activity 1. *Response Of Non-Target Soil Arthropods To Chlorpyrifos In Colombian Maize*

SOIL PESTS - CASSAVA AND OTHER CROPS (625 kb)

- Activity 1. *Integrated control of subterranean pests in South America*

BEAN ENTOMOLOGY (192 kb)

- Activity 1. *Developing germplasm with resistance to pests: *Thrips palmi*, leafhopper, pod weevil, and bruchids*

AFRICA: BEAN ENTOMOLOGY (137 kb)

- Activity 1. *Verification of farmers' indigenous knowledge on the influence of *Ootheca* larval feeding on bean root development in northern Tanzania*
- Activity 2. *Scale up and scaling out proven technologies through strategic alliances*

FORAGE ENTOMOLOGY (316 kb)

- Activity 1. *Screening *Brachiaria* hybrids for spittlebug resistance*
- Activity 2. *Identify host mechanisms for spittlebug resistance in *Brachiaria**
- Activity 3. *Effect of mixed infestations on resistance expression in selected *Brachiaria* genotypes*
- Activity 4. *Interactions between strains of five spittlebug species and resistance expression in selected *Brachiaria* genotypes*
- Activity 5. *Mechanisms of resistance to adults of five spittlebug species and sub-lethal effects of antibiosis on adults of spittlebug*

VIROLOGY (196 kb)

- Activity 1. *Resistant varieties for cassava frogskin disease*
- Activity 2. *Further studies to associate a reolike virus in *Manihot esculenta* affected with cassava frogskin disease*

CASSAVA AND TROPICAL FRUIT PATHOLOGY (1402 kb)

- Activity 1. *Detection of a phytoplasma associated with cassava Frogskin Disease (FSD) in Colombia*
- Activity 2. *Transmission of a phytoplasma affecting cassava seedlings and identification of indicator plants*
- Activity 3. *Identification of cultural practices and strategy to control frogskin disease in cassava*
- Activity 4. *Evaluation of the influence of the soil as a source of FSD vectors*
- Activity 5. *Isolation and characterization of Agrobacterium tumefaciens from soil and cassava roots*
- Activity 6. *Identification of RAMS markers to evaluate genetic diversity of selected isolates of Ralstonia solanacearum obtained from plantain*
- Activity 7. *Evaluation of the effect of hot water treatment of stem cuttings, biocontrol agents, selection of healthy stem cuttings and fertilizers on Phytophthora Root Rot under field conditions in Cauca and Quindío. Application of fungicides will be included as control treatments*
- Activity 8. *Use of organic matter and ash amendments as a strategy to manage cassava root rots and improve soil fertility in Tukanoan chagras in Mitú, Vaupés*
- Activity 9. *Preparation of a brochure on disease control for farmers*
- Activity 10. *On-farm evaluations of the effects of cover crops, green manure, organic compost, and plant extracts on Ralstonia solanacearum in Quindío*
- Activity 11. *Developing a heat treatment and establishing a plantain nursery*
- Activity 12. *Evaluating three doses of tetracycline to control the growth of bacteria isolated from oil palm*
- Activity 13. *Diagnosing plant diseases and technical assistance*
- Activity 14. *Training farmers, technicians, and extension agents in participatory research, cassava and other crops management, and disease control strategies*

TROPICAL FORAGE PATHOLOGY (996 kb)

- Activity 1. *Characterization of Xanthomona campestris pv. graminis isolates*
- Activity 2. *Resistance to Xanthomonas campestris pv. graminis (Xcg) in Brachiaria*
- Activity 3. *Elucidate the role of endophytes in tropical grasses*
- Activity 4. *Endophyte distribution in Brachiaria plants, and PCR analysis and screening of Brachiaria genotypes for endophytes*
- Activity 5. *Effect of fungal endophytes on pathogens in planta*
- Activity 6. *Search for nitrogen-fixing bacteria associated with species of Brachiaria*
- Activity 7. *Bacterial endophytes isolated from Brachiaria*
- Activity 8. *Antifungal protein isolated from seeds of tropical forage legume*

BEAN PATHOLOGY (426 kb)

- Activity 1. *Identifying common bean genotypes with resistance to angular leaf spot*
- Activity 2. *Angular leafspot pathogen Characterized*
- Activity 3. *Evidence that the common bean anthracnose pathogen, Colletotrichum lindemuthianum co-evolved with common bean gene pools*
- Activity 4. *Characterization of Colletotrichum lindemuthianum isolates from Antioquia and Santander en Colombia*
- Activity 5. *Nature and inheritance of angular leaf spot resistance in ALS differential genotypes and identified resistance sources*
- Activity 6. *Inheritance of anthracnose resistance in the Andean germplasm accession G 19833*
- Activity 7. *Allelism test for anthracnose resistance genes in the germplasm accession G 19833*

RICE PATHOLOGY (142 kb)

- Activity 1. *Characterization of Blast Pathogen Populations. Monitoring the Evolution in the Genetic and Virulence Diversity of the Blast Pathogen over time*
- Activity 2. *Selection of Rice Blast Resistance Sources to Different Genetic Lineages of the Blast Pathogen. Development of a Blast Nursery with Potential Sources of Resistance*
- Activity 3. *Identification of Molecular Markers Associated with the Blast Resistance Genes Pi-1, Pi-2, Pi-33 and their Incorporation into Commercial Rice Varieties Through Backcrossing and Marker Assisted Selection (MAS)*

AFRICA: BEAN PATHOLOGY (837 kb)

- Activity 1. *Characterization and distribution of Pythium spp causing root rots in Eastern Africa*
- Activity 2. *Effect of organic amendments on bean Fusarium root rot disease and soil inoculum levels*
- Activity 3. *Development and use of dilution plating method to quantify the effect of organic amendments on the inoculum levels of Pythium spp and severity of Pythium root rots*
- Activity 4. *Scaling-up of IPM bean based technologies*
- Activity 5. *Publications, Conferences, Workshops, Training, Students*

The Systemwide Tropical Whitefly IPM Program (1448 kb)

- Activity 1. *Coordination*
- Activity 2. *Studies on whitefly (*Aleurotrachelus socialis*) resistance mechanisms in selected cassava genotypes*
- Activity 3. *Studies on the biology and development of biotype B of *Bemisia tabaci* on cassava, *Manihot esculenta* and the wild species, *Manihot carthaginensis**
- Activity 4. *Developing integrated pest management components*
- Activity 5. *Refining of an action threshold for *Trialeurodes vaporariorum* control*
- Activity 6. *Development of sampling methods for whitefly populations*
- Activity 7. *Monitoring of insecticide resistance in whitefly population*
- Activity 8. *Management strategies for whiteflies*
- Activity 9. *Screening for virus resistance in snap beans*
- Activity 10. *Whiteflies as pests and virus vectors in Middle America*