



THE UNIVERSITY OF THE WEST INDIES

COCOA

RESEARCH

UNIT

REPORT FOR 1997

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ST. AUGUSTINE, TRINIDAD & TOBAGO

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Overview of the Activities of the Biochemistry Laboratory

O. Sounigo, Y. Christopher, R. Umaharan and L. Motilal

Genetic diversity assessment

Genetic diversity data obtained from morphological, biochemical (Isozyme Electrophoresis) and molecular (RAPD) studies were compared. This investigation is described in the paper below entitled "*Comparison between genetic diversity data obtained from morphological, biochemical and molecular studies*".

Detection of mislabelled trees

A preliminary study was undertaken to identify authentic and off-type trees of 30 accessions in ICG,T using morphological characteristics and RAPD data (10 primers giving 26 polymorphic bands). Comparisons with the original trees of the same accessions at Marper Estate allowed the identification of authentic and mislabelled trees for each accession under study. A difference at the level of at least one polymorphic RAPD band was considered indicative of an off-type. The study has now been enlarged to include more clones, with priority being given to a list of 100 clones with useful traits such as resistance to *Phytophthora* and *Crinipellis pernicioso*, and a low pod index.

Genetic bases of resistance to *Phytophthora*

Four hundred and ninety-six decameric Operon primers were tested on IMC 57 and Catongo, parents of progeny generated in this investigation. From these, 120 were selected, which provide 97 major and 66 minor segregating bands. One hundred and twenty-one of the 223 seedlings of the progeny (IMC 57 x Catongo) were characterized for three segregating isozyme loci (ADH₁, ACP and IDH).