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Occurrence of *Cacao swollen shoot virus* in Litimé, the Main Cocoa-Producing Area of Togo. C. Cilas, CIRAD, UPR SPID TA 80/03, 34398, Montpellier Cedex 5, France; E. Muller, CIRAD, UMR BGPI TA 41/K, 34398, Montpellier Cedex 5, France; and E. Mississo, CRA-F / ITRA, BP 90, Kpalimé, Togo. *Plant Dis.* 89:913, 2005; published on-line as DOI: 10.1094/PD-89-0913B. Accepted for publication 17 May 2005.

Cacao swollen shoot disease, first described from Ghana on *Theobroma cacao* in 1922, was identified in Togo in 1955 (4) in Kloto, a minor cocoa-producing area. Litimé is the main production zone in the country. However, its share of production has fallen from approximately 75% of national production in the 1980s to 55% currently because of aging plantations and new swollen shoot foci in this region that had previously been free of the disease. This disease is caused by *Cacao swollen shoot virus* (CSSV), of which the first isolate to be studied molecularly (Agoul) came from Kloto (1). Since then, the different cocoa-producing regions have been surveyed on several occasions and swollen shoot foci were detected for the first time in Litimé at the end of the 1990s. During 2000, symptomatic leaves were taken from trees which exhibited characteristic symptoms of the disease including swellings on fan branches and chupons, and red vein banding on young flush leaves. The existence of the virus was confirmed using immunosorbent electron microscopy (2) with a composite polyclonal *Banana streak virus/Sugarcane bacilliform virus* antiserum supplied by B. Lockhart and using polymerase chain reaction amplification with CSSV-specific primers (3). Degenerate primers for CSSV detection were designed in the 5' region (the first 350 amino acids) of open reading frame (ORF3) because this region of the CSSV genome was found to be highly conserved among available full-length CSSV sequences. An isolate from the Litimé area (Wobe 12) was sequenced completely (Genbank Accession No. AJ781003), revealing that it shared a nucleotide sequence identity of only 77% with Agoul. Since the initial observations, the disease has spread rapidly and approximately 60% of the plots in Litimé contain infected trees. Hence, there is an urgent need for a program to rogue infected trees and replant with tolerant material. Moreover, this situation is a threat to cocoa plantations in neighboring Ghana, where numerous eradication operations to control this disease have been launched.

References: (1) L. Hagen et al. *Virology* 196:619, 1993. (2) B. E. L. Lockhart et al. *Phytopathology* 82:691, 1992. (3) E. Muller et al. *J. Virol. Methods* 93:15, 2001. (4) M. Partiot et al. *Café Cacao Thé* 22:217, 1978.

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