

Control of Coffee Wilt: Study of Genetic Diversity of *Fusarium xylarioides* and *Coffea canephora* in Uganda

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SUMMARY

Coffee Wilt Disease (CWD) or Tracheomycosis was first seen in 1927 in Central Africa Republic. From 1938 to the early 50's it spread on *Coffea excelsa* and attacked *C. neo-Arnoldiana*, to a lesser extent *C. canephora* var. *robusta*. At the same time a general decline of coffee trees in Ivory Coast was attributed to the same disease. It attacked two local varieties of *C. canephora* and *C. abeokutae* or Indénié as well. In Ethiopia, CWD infects Arabica coffee. From 1935 to 1960, coffee wilt became the most serious disease of *Coffea sp* throughout West and Central Africa. The damages were very severe and lead to the death of millions of trees. As a consequence, *Coffea excelsa* and related species as *C. abeokutae* disappeared from these regions.

During the 50's the systematic elimination of affected plants over vast areas was required. Additionally, the collect of sources of resistance in both wild populations and in the cultivated varieties for use in breeding programmes should be undertaken so that resistant varieties could be developed and replanting could begin.

These two strategies proved to be highly successful.

The Coffee wilt disease "disappeared" towards the end of the 1960s, "reappeared" at the beginning of 1980's in DRC and 1993 in Uganda.

Given the inefficacy of phytosanitary control methods, the impossibility of replanting on infected soil and the absence of commercial resistant cultivars, a genetic control strategy was initiated. Two lines of research were developed: a study of pathogen diversity and an analysis of the biodiversity of wild *Coffea canephora* trees in Uganda, which would be resistant to vascular wilt.