

MULTI-FUNDER INITIATIVE

Canadian International Food Security Research Fund (CIFSRF)

Helping coconut farmers fight Lethal Yellowing disease

Ivorian and Canadian researchers are looking for ways to reduce coconut crop losses from Lethal Yellowing, a disease devastating plantations in West Africa. A better understanding of the disease, plant breeding, and replanting will help to preserve the livelihoods of Côte d'Ivoire's coconut farmers.

Coconut crops at risk

Coconut is the most important crop along West Africa's coastal belt. Coconuts produce oil, seed nuts, and livestock fodder, providing income for many women and landless poor. Coconut oil, in particular, is the main source of income for Côte d'Ivoire's coastal region.

Without urgent action, Lethal Yellowing will decimate Ivorian coconut crops by 2020. The disease is associated with phytoplasmas, insect-transmitted organisms that devastate various crops worldwide. The strain known as Côte d'Ivoire Lethal Yellowing disease has caused the loss of 12,000 tons of coconut kernels per year over the past 10 years in the country and now threatens to reach Ghana's coconut plantations.

Women in particular risk losing an important source of income, because they specialize in weeding, transplanting, processing, and selling coconut products. However, they have limited access to supplies, training, and disease-resistant seed.

Disease control measures to preserve livelihoods

This project is developing new strategies to help farmers control Côte d'Ivoire Lethal Yellowing.

A public-private partnership of natural and social scientists from Côte d'Ivoire, Ghana, and Canada is conducting field and laboratory research to map the phytoplasma and identify the insects and plants that carry it and develop diagnostic tests. The project will breed disease-resistant plants, develop methods to manage the outbreak, and build Ivorian and Ghanaian research capacities for laboratory disease detection and control.

Through field schools, plant clinics, and workshops, the research team will transmit innovations to farmers, government organizations, coconut processors, and business groups. Training and support for women will help them protect their crops and strengthen their role in coconut production and processing.

These advances will inform breeding and disease prevention policies in West Africa.

Expected outcomes

- Develop new disease management strategies to reduce Lethal Yellowing disease
- Deliver locally adapted disease-resistant coconut varieties to re-plant affected plantations
- Increase coconut productivity and prevent losses
- Improve women's capacity to access farming and business training and sell coconut-derived products.

LEAD RESEARCHERS

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