

Healthy cassava plants mean more food and income.



Rufus Deche, a small-scale farmer in Mtwapa, Kenya, shows how his cassava farm has been attacked by disease.



VIRCA aims to solve losses from two important cassava viral diseases that destroy roots.

The VIRCA Project

Scientists in Uganda and Kenya are developing versions of existing cassava varieties that are popular with local farmers and consumers, but with added protection against mainly cassava brown streak disease (CBSD). Working with varieties that already protect against cassava mosaic disease (CMD), scientists are using genetic modification techniques to improve resistance to CBSD, thus increasing the chances that cassava farmers have an abundant harvest to share with their communities.

Researchers at the Uganda National Crops Resources Research Institute (NaCRRI) and at the Kenya Agricultural Research Institute (KARI) in partnership with researchers at the Donald Danforth Plant Science Center (Danforth Center) in the U.S. are in the early stages of developing these improved cassava varieties.

However, it will take some time for scientists to determine the best improved cassava for farmers. Scientists will assess and observe the improved cassava over several years of development, taking plant performance, root harvest and safety assessments into consideration. Since cassava is a perennial crop, this work takes a few years. VIRCA varieties are expected to be accessible and available to farmers in a similar manner and cost to cassava currently available from national research organizations.

Approved field trials currently are underway to both evaluate the improvements, as well as to assess the safety of VIRCA cassava. The team is working with national government regulators, who will review safety data as part of an approval process for VIRCA cassava before it can be made available to farmers. This process includes safety information for food, feed and the environment.

The work is important because CMD alone is estimated to cause about $1 billion in losses in Africa; while CBSD is reported to cause total losses of cassava harvest, leaving families and communities without food or income.

Participating Organizations

The VIRCA project is a collaborative effort between KARI, NaCRRI and the Danforth Center. The project is supported by Uganda and Kenya Governments, the Bill & Melinda Gates Foundation, the United States Agency for International Development, the Monsanto Fund and the Howard Buffett Foundation.

NEW CASSAVA POTENTIAL - VIRCA



Scientists are developing an improved cassava that will allow communities to produce more food and income from cassava farming. Leading agricultural research organizations are working together to evaluate VIRCA cassava, which protects against devastating plant viral diseases as a potential new way to improve livelihoods.

VIRUS RESISTANT CASSAVA FOR AFRICA (VIRCA)

Improving Food Security and Farmer Incomes

The Need – More Food, Better Incomes

Cassava is a popular and important source of calories in Uganda and Kenya because it grows well in less than ideal conditions and can be made into many familiar foods. However, plant viral diseases wipe out up to 100 percent of cassava farmers' crop, causing many to go hungry and threatening their livelihoods. According to published reports, healthy cassava harvests could increase the incomes of 63 percent of the households in western Kenya and that of those in central and eastern Uganda.