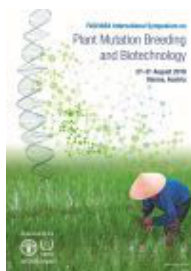


# FAO/IAEA International Symposium on Plant Mutation Breeding and Biotechnology



Contribution ID: 263

Type: **Poster**

## DEVELOPING DISEASE RESISTANT HIGH YIELDING FARMER-PREFERRED CASSAVA VARIETIES IN UGANDA THROUGH INDUCED MUTATION BREEDING

Cassava is a tropical food security crop that is grown by many farming families in Uganda. The crop is resistant to drought conditions, does well in low fertility soils, and low input production systems. The roots are a very handy source of energy for humans and livestock, and a focus for many industrial applications. The dual epidemic of cassava brown streak disease (CBSD) and cassava mosaic disease (CMD) are the most pressing constraint to cassava production. CBSD specially, is the most damaging as it causes necrotic root rots, which limit its utilization for food and feed. Conventional breeding efforts generated durable CMD resistance, but has not been successful for CBSD control. All CMD-resistant farmer-preferred cassava varieties are highly susceptible to CBSD. Biotechnology strategies have also been tested for CBSD resistance in cassava and transgenic plants generated were highly resistant to CBSD. However, genetic engineered crops face many challenges including perceptions and attitudes especially on issues concerning human nutrition, health, and wildlife security. Uganda also lacks biotechnology related law, which hinders commercialisation of genetically modified crops. Fortunately, mutation breeding does not have such ethical issues regarding human health and sustainability, and is invaluable in developing unique germplasm within a short timeframe when there is limited genetic variation. Besides, gamma irradiation has been used to generate mutant cassava varieties with improved yield, starch and dry matter content. This project seeks to artificially induce mutagenesis in selected cassava varieties using gamma irradiation for the purposes of improving yield and disease resistance, and for broadening the genetic base of cassava to circumvent genetic erosion.

### Country or International Organization

Uganda

**Author:** Dr OGWOK, EMMANUEL (NATIONAL CROPS RESOURCES RESEARCH INSTITUTE)

**Co-author:** Dr TITUS ALICAI, Titus (National Crops Resources Research Institute)

**Presenter:** Dr OGWOK, EMMANUEL (NATIONAL CROPS RESOURCES RESEARCH INSTITUTE)

**Track Classification:** Mutation breeding for ornamental and vegetatively propagated crops