

Introducing aphid resistance into biofortified and high yielding cowpea varieties in Zimbabwe using marker-assisted selection



University of Zimbabwe
(UZ) Zimbabwe

Professor Edmore Gasura

Project team members

Project location



The cowpea breeding team at the Department of Plant Production, Sciences and Technologies at the University of Zimbabwe (UZ). The team from left to right; Mr Martin Sanyamuwera, Dr Annia Matikiti, Mr Yeukai Mashura, Dr Rose Tafadzwa Masekesa, Professor Edmore Gasura.

PROJECT OVERVIEW

Cowpea is a widely used grain legume in Zimbabwe and the major source of proteins for many people. Farmers prefer high yielding varieties with large seeds, while the consumption of varieties with a high level of micronutrients such as iron and zinc is highly recommended for improved nutrition. A total of seven improved cowpea varieties were recently released in Zimbabwe.

The project is aimed at using marker assisted selection for the development of new improved cowpea varieties with resistance to aphids.



Close up of Zimbabwe's best dual purpose cowpea (CBC3) where both the grains and leaves are consumed.

Main objective

To develop capacity of national molecular breeding system for the rapid development of new cowpeas varieties targeting the introgression of aphid resistance into varieties that are high yielding, medium to large seeded varieties in Zimbabwe.

Specific objectives

1. Selection of the best recurrent parent among CBC2, CBC3, CBC4 and CBC5 to be used as a recurrent variety in addition to the biofortified cowpea variety CBC6.
2. Selection of the potential donor lines for use as sources of host resistance to the cowpea aphid, *Aphis craccivora* (Koch).
3. Introducing aphid resistance into the selected farmer preferred cowpea varieties by marker assisted backcross breeding.
4. Building capacity and strong research collaborations in Zimbabwe for cowpea crop improvement and research.

PROJECT TEAM MEMBERS



Professor Edmore Gasura

Principal Investigator, University of Zimbabwe (UZ), Zimbabwe.

Professor Gasura leads the KT-funded cowpea breeding project in Zimbabwe. He holds a PhD in Plant Breeding and Biotechnology (awarded in 2015) and an MSc (awarded 2009) in Crop Science, Biotechnology, from Makerere University, Uganda.



Dr Rose Tafadzwa Masekesa
Co-PI. Project implementation, data collection and training of staff in MAS



Mr Martin Sanyamuwera
Molecular biology technician

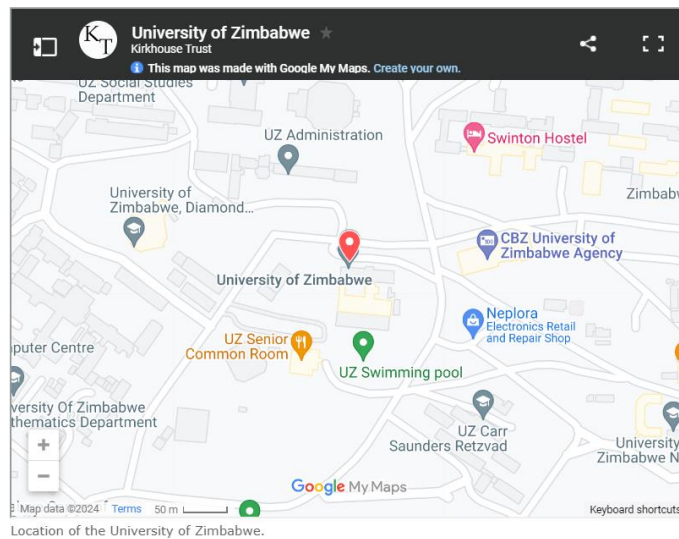


Dr Annia Matikiti
Molecular biology and field technician




Mr Yeukai Mashura
Molecular biology and field technician

PROJECT LOCATION



Location of the University of Zimbabwe.

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