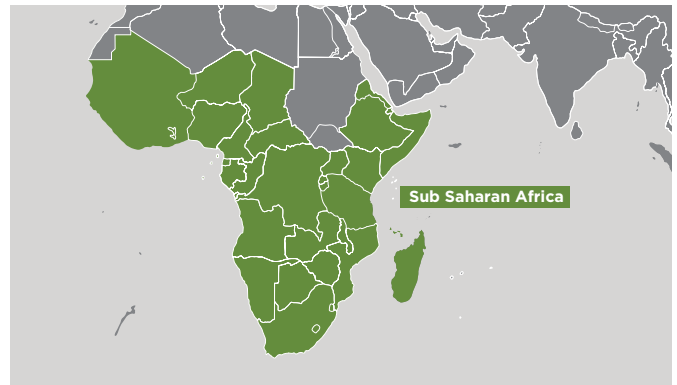




Crops

# Demand-led plant variety design for emerging markets in Africa



## Overview

**African agriculture is moving from subsistence systems to more market-led systems. Enabling small-scale producers to access Africa's expanding local and regional markets is one of the critical challenges facing policy makers.**

Identification of market demand and development of products with suitable characteristics to meet market requirements is central to the transformation of agriculture in Africa.

Determining the preferred traits for which to breed new varieties is paramount to success, and both the private and public sectors have considerable experience worldwide in developing crop varieties that meet customer needs. As economies mature and markets expand, private companies will become increasingly involved in breeding new high performing varieties to meet customer requirements and market demand in emerging economies.

The uptake of new plant varieties by small-scale farmers in Africa over the past 15 years is, approximately, a relatively low 35%. This is due to lack of access to seeds, credit and other inputs. The suitability of new varieties to meet customer demand from farmers, traders and consumers, particularly considering changing demands to meet new market opportunities, is another factor contributing to moderate uptake. A more customer-focussed and demand-led approach to improved plant variety design will increase the supply of market-demanded varieties by the public and private sector plant breeding programs.

## KEY FACTS

**ACIAR Project No.** FSC/2013/019

**Duration:** June 2014 to December 2021 (7.5 years)

**Target areas:** Sub Saharan Africa

**Budget:** A\$1,435,000

### Project Leader

Dr Gabrielle Persley, University of Queensland Global Change Institute

### Key partners

- Syngenta Foundation for Sustainable Agriculture
- Crawford Fund
- Biosciences Eastern and Central Africa
- International Livestock Research Institute
- Association for Strengthening Agricultural Research in Eastern and Central Africa
- West and Central African Council for Agricultural Research and Development
- University of Ghana
- University of KwaZulu-Natal, South Africa
- Forum for Agricultural Research in Africa
- Regional Universities Forum for Capacity Building in Agriculture
- Alliance for a Green Revolution in Africa

**ACIAR Research Program Manager**

Dr Eric Huttner

## Objective

**This project's ultimate goal is to contribute to the transformation of African agriculture by enabling small-scale farmers to better participate in local and regional markets, by increasing the availability and adoption of high performing plant varieties that meet market demands.**

The objectives are to:

- Enable plant breeders to develop more high performing varieties that meet customer requirements and market demand by having increased access to, and ability to implement, state-of-the-art knowledge, methodologies and best practices from the public and private sectors.
- Build capacity within plant breeding programs on demand-led variety design, through strengthening education and training programs for plant breeders, through new curriculum development and professional development courses on demand-led plant variety design.
- Provide evidence to support new policy development and investments in plant breeding that will help generate more high performing varieties to meet emerging market demands, with emphasis on Africa.

## Expected scientific results

- Develop molecular markers to speed the selection process for some of the traits required by the market: farmers, suppliers and traders, and consumers.

## Expected impact/outcomes

- Improve integration of all aspects of market demand into the design of new plant varieties. These would include farmers' needs – biological constraints including drought, pests and diseases, yield and phenology (earliness, duration, time of sowing); customer needs – colour, taste, nutritional value and quality; and suppliers needs – storage characteristics, processing and keeping quality.
- Increase use of innovative, market-driven approaches to plant variety design by national, regional and international plant breeding programs in Africa leading to the development of high performing crop varieties that respond to customer needs and market demand.
- Increase levels of adoption by small-scale farmers of new crop varieties that meet market needs.
- Establish innovative market-driven approaches to plant variety design incorporated within the national and regional education and training programs for plant breeding, as well as in the ongoing professional development of plant breeders in Africa.
- Establish innovative market-driven approaches to plant variety design incorporated in new science and technology and agricultural policies developed at the national, regional and continental level in Africa.



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