

## Professor Eric Danquah “Demand leads the way”

### WACCI Mission

To equip plant breeders with knowledge and field experience to lead the conversion of genetic and molecular discoveries into innovative solutions that will benefit agriculture in West and Central Africa.



Demand-led plant breeding. It might appear self-evident that the market should always provide the stimulus and direction for plant breeding. But it's not always that obvious. The best plant research is often cooperative, integral and inclusive – a combination of several important factors and influences, with the value chain providing the orientation and the technology providing the motive force. In the ideal research scenario, scientific models and market requirements should work in cooperation to spur innovation, ensure a sustainable model and bring commercial success.

The aim of Professor Eric Danquah, Director of the West Africa Centre for Crop Improvement (WACCI), is to show that farming communities in Africa can be more productive, more profitable, more secure, and more sustainable by using demand-led plant breeding. It's not a certainty in every case and it won't resolve every problem, but there is already enough evidence to suggest that more resources more closely concentrated on demand-led plant breeding practices will substantially benefit the sustainability of African farming over the next years.

Demand-led plant breeding is, in Professor Danquah's words, *“a significant and potentially game-changing initiative for the region, perhaps especially notable because it is home-grown”*. It can be defined as working with the input of the value chain throughout the development process. In seeking the views of distributors, retailers and growers, the systematic feedback goes further than participative breeding, which uses similar procedures for producers and growers.

There is a palpable sense of enthusiasm and excitement amongst the plant breeders, teachers, researchers and students of WACCI, which has a deep and committed bench of top scientists, staff and administrators. This enthusiasm comes from a confidence that the work is catalytic and scalable, of benefit not only locally but increasingly for the whole of the region.

Much of this confidence reflects the strong convictions of Professor Danquah, who is seeking to develop WACCI as a pre-eminent source of information and knowledge, by training students to use the best techniques, technology and tools, traditional and modern, in African plant breeding. He is tireless in seeking new funding from existing and new sources and has made substantial efforts to create a professional network amongst African breeders. *“Getting plant breeders together to align their objectives with the needs of the market is the key task. It's about creating and maintaining a pan-African community of excellence in plant breeding practice.”*

With the private sector looking increasingly receptive to investment opportunities, prospects for demand-led plant breeding are improving and aligning more closely with the brighter economic outlook. Seed companies have to find good new varieties in order to build business, and only consistently high quality production can create and keep markets. WACCI has also been concerned to revive and strengthen particular sectors, such as the region's tomato and vegetable production, largely ignored by international researchers more interested in developing new crop varieties for export markets. This

supports and confirms WACCI's achievement, following an open, competitive and merit-based process, of securing the impressive status as one of the World Bank Africa Centres of Excellence.

With the remit to create the next generation of West and Central African plant breeders, WACCI has already made significant progress. The first cohort of PhD graduates enrolled in 2008 and all have returned to their national programmes to develop national seed varieties. A total of 28 WACCI students have so far graduated in the PhD programme, and 69 students at various stages of training will all graduate by 2020. WACCI has the largest annual intake of PhD student breeders in Africa.

AGRA, the major sponsor, has contributed to this growing legacy of knowledge by financing the first cohorts. Several other funds, companies and institutions have been working with WACCI to help it apply the knowledge and earn the experience to develop better varieties of staple crops for the assurance of food and nutritional security in Africa.

Professor Danquah's conviction about the success of demand-led plant breeding is proving to be accurate, as the new breeding methods are already demonstrating their potential to investors and will generate new income for farmers. With growing market experience and scientific expertise, plant breeders are now beginning to identify the long term solutions to food insecurity by using regenerative resources from within Africa's own knowledge and experience.

All those involved in the network believe that this is the right ambition as well as the realistic future of the programme.