

African Agricultural Technology Foundation



PROJECT 4: Water Efficient Maize for Africa (WEMA)

Background

Africa is a drought-prone continent, making farming risky for millions of small-scale farmers who rely on rainfall to water their crops. Maize is the most widely grown staple crop in Africa – more than 300 million Africans depend on it as their main food source – and it is severely affected by frequent drought. Drought leads to crop failure, hunger, and poverty. Climate change will only worsen the problem. Drought tolerance has been recognised as one of the most important targets of crop improvement programs, and biotechnology has been identified as a powerful tool to achieve significant drought tolerance by the United Nation's Food and Agriculture Organization. Identifying ways to mitigate drought risk, stabilise yields, and encourage small-scale farmers to adopt best management practices is fundamental to realising food security and improved livelihoods for the continent. AATF is leading a public-private partnership called Water Efficient Maize for Africa (WEMA) to develop drought-tolerant African maize using conventional breeding, marker-assisted breeding, and biotechnology. The benefits and safety of the maize varieties will be assessed by national authorities according to the regulatory requirements in the partner countries: Kenya, Mozambique, South Africa, Tanzania and Uganda.



Objective

The partners in this five-year project will develop new African drought-tolerant maize varieties, incorporating the best technology available internationally. The long-term goal is to make drought-tolerant maize available royalty-free to small-scale farmers in Sub-Saharan Africa.

The problem

Drought is the most important constraint of African agriculture severely affecting maize, the most important African staple food crop. Three-quarters of the world's severe droughts over the past 10 years have occurred in Africa. The WEMA partnership was formed in response to a growing call by African farmers, leaders, and scientists to address the effects of drought in a way that is cost effective to African smallholder farmers.

WEMA project

AATF will work with the internationally funded non-profit International Maize and Wheat Improvement Center (CIMMYT), the private agricultural company Monsanto, and the agricultural research systems in eastern and southern Africa in this effort. AATF will contribute its leadership, unique experience in public-private partnership management, technology stewardship and project management expertise. CIMMYT will provide high-yielding maize varieties that are adapted to African conditions and expertise in conventional breeding and testing for drought tolerance. Monsanto will provide proprietary germplasm, advanced breeding tools and expertise, and drought-tolerance transgenes developed in collaboration with BASF. The varieties developed through the project will be distributed to African seed companies through AATF without royalty and made available to smallholder farmers as part of their seed business. The national agricultural research systems, farmers' groups, and seed companies participating in the project will contribute their expertise in field testing, seed multiplication, and distribution. The project will involve local institutions, both public and private, and in the process expand their capacity and experience in crop breeding, biotechnology, and biosafety.

Partner institutions

- African Agricultural Technology Foundation (AATF)
- National agricultural research systems in Kenya, Mozambique, South Africa, Tanzania and Uganda
- International Maize and Wheat Improvement Center (CIMMYT)
- Monsanto

Funding Partners

- Bill & Melinda Gates Foundation
- Howard G. Buffett Foundation

AATF is a not-for-profit Foundation designed to facilitate and promote public/private partnerships for the access and delivery of proprietary agricultural technologies for use by resource-poor smallholder farmers in Sub-Saharan Africa. AATF is a registered charity under the laws of England and Wales and has been given a tax-exempt status in the USA. It is incorporated in Kenya and in the UK and has been granted host country status by the Government of Kenya where it is headquartered.