

African Agricultural Technology Foundation



PROJECT 2 : Cowpea productivity improvement - guarding against insect pests

Background

Cowpea (*Vigna unguiculata* L. Walp) is considered the most important food grain legume in the dry savannas of tropical Africa, where it is grown on more than 12.5 million hectares of land. It is rich in quality protein and has energy content almost equivalent to that of cereal grains; it is a good source of quality fodder for livestock and provides cash income. Nearly 200 million people in Africa consume the crop. Many biotic and abiotic factors greatly reduce cowpea productivity in the traditional African farming systems. Among these constraints is the pod borer, *Maruca vitrata*, which perennially damages cowpea pods on farmers' fields. Efforts are under way to develop improved varieties of cowpea that can withstand such stresses, and enhance farmers' grain and fodder production. As a part of this effort, AATF is collaborating in a public/private sector partnership project to promote technological interventions that will optimise cowpea productivity and utilisation in Sub-Saharan Africa.



Objective

To enable smallholder farmers in Sub-Saharan Africa have access to farmer-preferred, elite cowpea varieties with resistance to insect pests, especially the pod borer *Maruca vitrata*.

The problem

The pod borer (*Maruca vitrata*) is a major Lepidopteran pest that inflicts severe damage to cowpea on farmers' fields. In severe infestations yield losses of between 70–80% have been reported. Control through spraying with insecticide has not been widely adopted by farmers due to the prohibitive costs; adopting farmers are often exposed to serious health hazards.

AATF is addressing this problem by facilitating development of transgenic cowpea varieties that are resistant to the *Maruca* pest. This will minimise insecticide use, and its effects on health and the environment.

AATF interventions

- Accessing the *cry1Ab* gene to protect cowpea against the *Maruca* pod borer
- Facilitating licensing arrangements and regulatory compliance for development and deployment of *Maruca*-resistant cowpea varieties in Sub-Saharan Africa
- Providing product stewardship for responsible and sustainable use of *Maruca*-resistant cowpea varieties

Partner institutions

- NGICA – Network for the Genetic Improvement of Cowpea for Africa
- CSIRO Australia – Commonwealth Scientific and Industrial Research Organisation
- IITA – International Institute of Tropical Agriculture
- Monsanto Company
- The Kirkhouse Trust
- INERA – Institut de l'Environnement et de Recherches Agricoles – Burkina Faso
- IAR – Institute of Agricultural Research Zaria, Nigeria
- National Agricultural Research Systems in target countries of west Africa

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.

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