

# Adopting Bt-Cowpea Varieties for Enhanced Crop Productivity in Burkina Faso, Mali and Togo

**Enhancing cowpea productivity for improved income generation, nutritional and food security for the burgeoning population of West Africa requires more than conventional techniques and approaches.**

Cowpea, the most important food grain legume in Sub-Saharan Africa with about 5 million ha grown in the Sahel of West Africa, contains 25% protein and is the poor persons' choice of affordable protein. It is a rotation crop and an intercrop, helping to improve soil quality by capturing and fixing atmospheric nitrogen; it also mines soil phosphates and makes them available to the crop and intercropped plants via its symbiotic mycorrhizae. The cowpea crop in West Africa is, however, seriously challenged by an insect pest, *Maruca*, a pod borer that lays its eggs on the cowpea plants; its emerging caterpillars feed on the plant, damaging the crop and dramatically reducing the quantity and quality of seeds thus leading to severe yield losses.

Conventional cowpea pests control methods which involve the use of both cultural and chemical pesticides have had very limited results in checking the extensive damages caused by *Maruca*. Also the rising costs of chemical pesticides, the accompany health and environmental hazards led to the genetic engineering of a cowpea variety, the Bt cowpea which is resistant to attacks by the *Maruca* larvae. The current project is focused on assessing the acceptance and adaptation of this Bt cowpea in Burkina Faso, Mali and Togo with a goal of out-scaling the variety to West and Central Africa.



Caterpillar boring into a cowpea pod. Photo: M. Tamo

## Main Beneficiaries

Cowpea farmers, traders, processors and consumers will benefit from good quality yields with less crop damage in the field and in storage. The network of research institutions will benefit from the technique used in Bt technology. The health hazards from chemical pesticides hitherto experienced by producers will be reduced. The negative environmental impact from the chemical pesticides on non-target fauna would also be reduced.

## Main regional benefits

Bt cowpea is out-scaled to countries of West and Central Africa.

## Partners

This CAADP-compliant project funded by USAID is coordinated by CORAF/WECARD, and is being implemented by the Institut de l'Environnement et des Recherches Agricoles (Burkina Faso), and the partners are Institut Togolaise de Recherche Agronomique (Togo) and Institut d'Economie Rurale (Mali). The African Agriculture Technology Foundation played a fundamental role in procuring the Bt cowpea.

| Components                                    | Outputs   | Outcomes  | Impact  |
|---|---|---|---|
| <b>1</b><br><br><b>Technology Adaptation</b>  | <ul style="list-style-type: none"> <li>• Agreement on Bt cowpea use secured</li> <li>• Authorization for confined field trials obtained</li> <li>• Bt cowpea adapted</li> </ul>   | <u>Outcome 1</u><br>Bt cowpea up-scaled and out-scaled  | <b>Enhanced cowpea productivity in Burkina Faso, Mali and Togo</b><br><br><b>Increased income and wellbeing of actors of the cowpea value chain</b><br><br><b>Enhanced environmental sustainability</b> |
| <b>2</b><br><br><b>Enabling Environment</b>   | <ul style="list-style-type: none"> <li>• Economic benefits of Bt cowpea introgression into conventional varieties identified</li> <li>• Out-crossing possibilities of Bt cowpea with wild cowpea populations documented</li> <li>• Public perception of Bt cowpea Improved</li> </ul> | <u>Outcome 1</u><br>Supportive policies on genetic engineering are made available<br><br><u>Outcome 1</u><br>Increased Bt technology adoption |   |
| <b>3</b><br><br><b>Capacity Strengthening</b> | <ul style="list-style-type: none"> <li>• Institutional capacity to generate and use Bt technology strengthened</li> <li>• Capacity of users of Bt technology strengthened</li> </ul>  | <u>Outcome 1</u><br>Enhanced capability of African institutions to conduct advanced biotechnology for agriculture                             |   |

**For more information**

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