

## IITA Conducts First Open Experimental Releases of Novel *Maruca vitrata* Parasitoids

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After a series of confined lab, screenhouse, and field tests, IITA has successfully carried out the first open experimental releases of novel natural enemies against one of the most damaging pests of cowpea, the legume pod borer *Maruca vitrata*, at two locations in Benin.



One of the released parasitic wasps, *Therophilus javanus*

The released natural enemies are the parasitic wasps (parasitoids) *Therophilus javanus* and *Phanerotoma syleptae*, obtained from the World Vegetable Center in Taiwan through a collaborative project funded by the [German Society for International Cooperation \(GIZ\)](#). The parasitoids were mass-reared and prerelease tested in confined laboratories at [IITA-Benin](#) with funds from the USAID [Feed the Future Legume Innovation Lab](#). The releases were carried out under the same project, with cofinancing from a precision-IPM scoping grant by the [Bill and Melinda Gates Foundation](#). The two parasitoids work in synergy by having two different modes of action, one being an ovo-larval parasitoid, the other a sturdier larval parasitoid which can detect the presence of caterpillars of *M. vitrata* inside cowpea flowers and pods. Data from prerelease studies indicate a high potential for these parasitoids to keep populations of the pod borer below damaging threshold.



Farmer sensitization campaign prior to parasitoid releases

The parasitoids were released on patches of wild alternative host plants for the pod borer, where the pests feed and reproduce during the off-season period, ready to invade cowpea fields at the

onset of the cropping season. Before and during the parasitoid release occasion, farmers were sensitized about the essential features of biological control, and the need to refrain from inappropriate use of chemical pesticides in order to preserve the newly released natural enemies. Instead, the farmers were told that the use of biopesticides (e.g. neem extracts) is compatible with the action of the biological control agents.



Parasitic wasps being released at the official ceremony

IITA has been able to reach this milestone by working with the following partner institutions: Benin National Agricultural Research Institute (INRAB); the Directorate for Plant Production in charge of Regulatory Services at the Ministry of Agriculture (DPV/MAEP); the University of Illinois at Urbana-Champaign (UIUC); and Michigan State University (MSU).

Present at the official release ceremony were local farming communities and authorities of the villages of Se (Commune of Houéyogbé, Mono Department) and Lanta (Commune of Klouékanmè, Couffo Department), the Director General of INRAB, representative of the Director of DPV/MAEP, the Agriculture and Economic Growth Specialist of USAID in Benin, NGO and extension agents, and IITA project staff.

Follow the link below to Dr. Tamo's blog about the open parasitoid releases in Benin posted on the UN's [FAO website](#).