

IITA Releases Novel *Maruca vitrata* parasitoids

After a series of confined lab, screen house, 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.

The released natural enemies are parasitic wasps (parasitoids), *Therophilus javanus* and *Phanerotoma syleptae* obtained from the World Vegetable Center (AVRDC) in Taiwan through a collaborative project funded by GIZ. The parasitoids were mass-reared and pre-release 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 co-financing from a **precision-IPM scoping grant by the Bill and Melinda Gates Foundation** (managed at MSU). The two parasitoids work in synergy through two different modes of action, one an ovo-larval parasitoid, the other a sturdier larval parasitoid that can detect the presence of caterpillars of *M. vitrata* inside cowpea flowers and pods. Data from pre-release studies indicate a high potential for these parasitoids to keep populations of the pod borer below a damaging threshold.

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, ready to invade cowpea fields at the onset of the cropping season. Both before and during the parasitoid release occasion, farmers were sensitized about the essential features of biological control and the need to refrain from use of chemical pesticides 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.

Local farming communities and authorities from 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 attended the official release ceremony.

IITA has reached this milestone through collaboration 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); Michigan State University (MSU), and the University of Illinois at Urbana-Champaign (UIUC).