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Biological control, a pillar of precision-IPM for controlling cowpea insect pests in West Africa

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ABSTRACT

Our vision for cowpea pest control is deployment of locally tailored interventions built on an underlying infrastructure that is able to monitor pest pressure and respond in real time, an approach we have termed 'precision-IPM'. Among the most promising interventions, biological control presents a unique opportunity for sustainable control of cowpea pests. Hence, we are presenting challenges and opportunities for the development and deployment of a 'biological control pipeline' addressing insect pest problems in cowpea (*Vigna unguiculata*) in West Africa. Biodiversity and population genetic studies have been carried out to guide the identification of novel biological control candidates, which are subsequently assessed for their potential in sustainably reducing pest populations. Pre-release assessment studies are targeting critical questions such as potential impact on biodiversity and biosecurity in general, together with factors leading to successful establishment such as host finding capacity and intra-guild competition. Also, experience from the field has indicated the importance of the right deployment system for establishing a population of the released natural enemy through inoculative releases. Using the case study of the legume pod borer *Maruca vitrata*, the presentation leads through the various steps of this development-to-deployment process, including partnerships with e.g. social enterprises.