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"Agricultural development within the rural-urban continuum"

A Biological Control Pipeline for Cowpea in West Africa

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Abstract

We are presenting past and current activities leading to the development and deployment of a 'biological control pipeline' for addressing insect pest problems in cowpea (*Vigna unguiculata*) from a West African perspective. Biodiversity and population genetic studies are catalyzing the identification of novel biological control candidates, which are subsequently assessed for their potential in sustainably reducing pest populations. Eco-climatic suitability, but also more technical aspects such as colony establishment, rearing methods, ex-ante socio-economic assessment are also taken into consideration as crucial factors for identifying successful candidates. Pre-release assessment studies are targeting critical questions such as potential impact on biodiversity and biosecurity in general. 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 the pipeline, including challenges and opportunities for partnerships with e.g. social enterprises. The same pipeline approach is also illustrated for the development of bio-pesticides against the same target pest, as one of the valuable components of integrated pest management (IPM) for cowpea.

Keywords: Bio-pesticides, biodiversity, cowpea

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