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"Resilience of agricultural systems against crises"

Developing an IPM Strategy at the Vallée Du Kou Irrigated Rice Scheme in Burkina Faso

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Abstract

Rice is one of the major food and cash crops in Burkina Faso. National production (270,000 tons of paddy) accounts only for 60 % of the population needs. Insect pests and diseases are major biotic constraints to rice productivity and production. At the irrigated rice scheme of Vallée du Kou (1200 ha) stem borers can cause as much as 40 % of yield loss during the dry cropping season. Therefore, there was a need to develop an IPM strategy. A study has been carried out from 2010 to 2011 during 4 consecutive cropping seasons (wet and dry) to investigate the effects of periods of transplanting on the occurrence of insect pests damages and their natural enemies. For this purpose, the irrigated rice scheme was divided into two zones within which 48 farmers' fields were randomly selected according to three periods of rice transplanting (16 fields per period). A network of 48 light traps was installed into the 48 sites. Entomological and agronomic observations were done every two weeks from the 21st day up to 80th day transplanting while records of trap catches done on a daily basis. Results revealed that insects of the *Chilo* genus (*C. zaconnius* and *C. diffusileneus*) were the major rice pests. Picks of adult populations were reached in dry season (April) each year. Damages and parasitism (up to 38,5 %) associated with stem borers as well as yields were higher during the third period of rice transplanting as compared to the two first ones. This is an important step in setting up an IPM strategy to control insect pests and diseases of rice, in order to contribute to the sustainable production and food security and to increase small farmers' income.

Keywords: Chilo, damages, insect pests, light traps, parasitism, rice, stem borers, transplanting

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