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## Ecological Characteristics of the Millet-worm *Heliocheilus lbipunctella* (Lepidoptera: Noctuidae), a Pest on Millet-Worm in Sudan

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### Abstract

Sudan is the largest country in Africa with an area of about 2.5 million square kilometers located in northeast and central Africa. Agriculture is the most important sector in the Sudanese economy, in terms of its contribution to GDP (gross domestic product). Millet is grown throughout the country during the rainy season from April to October. Pearl millet (*Pennisetum typhoides* Stapf & Harbbard) is extensively cultivated and used as food in Sahelian countries more than in any other area of Africa. Thus, the major areas of production in Africa are the Sudan and Sahelian zones. It is the staple food for the majority of six million inhabitants of western Sudan, i.e. Kordofan and Darfur states. Among cereals it ranks second to Sorghum both in the area cultivated and also in total production.

The main constraints of the production of millet in west Africa are drought, insect pests, diseases, weeds and birds. After the drought of the sub-saharan belt of west Africa which occurred during the period of 1972–1974 the millet-worm *Heliocheilus albipunctella* became the major pest insect. Yield losses recorded reached more than 85 %.

The presented paper describes the results of field studies carried out in Kordofan State concerning ecological parameters of this millet-worm. The emergence of first instar larvae in the field was recorded in late August /1993. The highest number of larvae were collected from Dembi and Herhri millet genotypes during September. The results documented that the duration of the larval period ranged from 36–43 days. Pupation took place in a soil depth of 5 - 20 cm. In the upper soil layer (0–5 cm) no pupae were found, and in deeper soil layers (> 20 cm) the number of pupae sharply dropped according to the slight increase of soil moisture and the decrease of soil temperature. Adult females deposited their eggs only on the heads of millet, preferring half-emerged and fully-emerged flowering heads. The results showed that the occurrence of millet worm during the rainy season coincided with the heady stage of the millet. The moth disappeared from the field with the maturity of the crop.

**Keywords:** Millet, drought, *Heliocheilus albipunctella*, insect pest, millet worm, *Pennisetum typhoides*