

1608 Tracking seasonal dynamics of pyrethroid resistance in African populations of *Helicoverpa armigera*

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In cotton growing areas of Africa, wild and cultivated plants such as cotton, tomato, maize, Cleome and Hyptis, constitute temporal habitats for *Helicoverpa armigera* (Hübner) populations and take part in the epidemiology of pyrethroid resistance. From 2002 to 2006, seasonal monitoring of pyrethroid resistance was performed in different locations on the major host plants of the bollworm. It was observed that pyrethroid susceptibility in *H. armigera* usually decreased during each cotton growing season. With time, susceptibility of cotton populations had gradually decreased to attain a worrying level by October 2004. Laboratory bioassays on field-sampled larvae showed that most control failures reported by farmers could definitely be allotted to pyrethroid resistance. Field monitoring on the sequence of host plants of *H. armigera* in northern Cameroon confirmed the probable key role of cotton in the seasonal increase of resistance frequency. In addition, tomato crops were found to strongly concentrate resistance during the off-season. Understanding biological, ecological and operational factors that shape pyrethroid resistance are of huge interest in the development of a sustainable insecticide resistance management strategy.