

## Abstract

Plants defend themselves against herbivores through activation of both constitutive and induced defences. Previous studies reported that egg deposition on maize landraces induces the release of volatiles that attract parasitoids, but little is known on the effect of these volatiles on subsequent herbivore oviposition. In addition, larval preference and development on these maize landraces is unknown. We evaluated six landraces and one hybrid maize variety for their resistance to *Chilo partellus* (Swinhoe) (Lepidoptera: Crambidae). Larval orientation, settling, arrest and dispersal, feeding, development, survival, and subsequent oviposition of moths were determined for individuals reared on each of these varieties under laboratory and screen house conditions. For oviposition preference studies, all treatments were initially exposed to egg deposition whereas the control treatments were not. Larval preference was generally higher for hybrid maize, compared to the landraces. Similarly, first-instar feeding on maize leaves was more intense in hybrid maize than in four of the six landraces. The amount of food consumed and assimilated by third instars over a 24-h period was, however, not different among the maize varieties. Larval survival was significantly lower in maize landraces (32%) compared to hybrid maize (54%). However, there was no difference in the larval development period between any of the treatments. Two-choice oviposition assays showed that moths preferred non-exposed maize landraces for subsequent oviposition, whereas in the hybrid, there was no difference in oviposition preference between exposed and non-exposed plants. Although the mechanism of larval suppression was beyond the scope of this study, it was inferred that the landraces showed some resistance to *C. partellus* feeding and that initial egg deposition on these landraces deters further colonisation by the herbivore.