Biotype and insecticide resistance status of Bemisia tabaci populations from Peninsular Malaysia

Abstract

Bemisia tabaci, a resistance-prone insect pest, is a cryptic species complex with important invasive biotypes such as B and Q. The biotype and resistance statuses of this pest in Malaysia remain unclear. This study assessed the biotype and resistance status of a number of contemporary populations of B. tabaci based on the mtCO1 marker and the dose-response method, respectively. The Pahang (PHG) population was labelled as the Q biotype, while the remainder of the populations belonged to the Asia 1 biotype. A very low level of resistance for profenofos, cypermethrin, and imidacloprid was detected for all populations [resistance factor (RF) < 10]. Resistance to diafenthiuron ranged from very low to very high (RF > 100). All populations showed a very low level of resistance against pymetrozine except Q-type PHG population, which exhibited a very high level of resistance. For most insecticides, the highest level of resistance was detected in the PHG population. The implications of these findings for better management of this noxious pest are discussed.

Keyword: Bemisia tabaci; Biotype; Insecticide resistance; Invasive biotype