

1609 Host specificity and insecticide resistance in the cotton aphid, *Aphis gossypii*

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The cotton aphid *Aphis gossypii* Glover is one of the key cotton pests throughout the world. It is a cosmopolitan and polyphagous species, but recent studies with microsatellite markers showed the existence of genotypes specialised on cotton (Burk), eggplant (Auber), pepper/sweet pepper (Pipo) and cucurbits (C9). As a consequence of intense insecticide use, exponential demographic factor associated to parthenogenesis in this species have favoured rapid selection of insecticide resistance mechanisms in Cameroon. The aim of this study was to screen these genotypes for resistance to various insecticides. In addition, the basic mechanisms underlying resistance were investigated. The results showed that none of the tested genotypes was resistant to acetamiprid and carbosulfan. However, all genotypes except C9 were resistant to dimethoate and profenofos. The Burk and Auber genotypes were both highly resistant to cypermethrin, with mechanisms probably involving s-kdr mutations and esterases respectively. Insecticide use by farmers in vegetable and cotton crops significantly account for the genetic structuring of *A. gossypii*. The resistance status of each genotype should help in elaborating strategies for integrated resistance management.