UNIVERSIDAD DE TALCA

CLONAL DIVERSITY AND INSECTICIDE RESISTANCE OF MYZUS PERSICAE (HEMIPTERA: APHIDIDAE) POPULATIONS FROM TOBACCO IN CHILE: EVIDENCE FOR THE EXISTENCE OF A SINGLE PREDOMINANT CLONE

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ABSTRACT

The tobacco-feeding race of *Myzus persicae* (Sulzer), formerly known as *M. nicotianae* Blackman, was introduced in Chile during the last decade. In order to evaluate the clonal diversity and insecticide resistance status of Chilean tobacco aphid populations, a field survey was conducted in 33 tobacco fields covering a 300 km latitudinal survey. The populations sampled were characterized using microsatellite markers and morphometric multivariate analysis. Insecticide resistance levels were assessed through the microplate esterase assay and the mutation status of the *kdr* gene. All samples collected corresponded to the same anholocyclic aphid genotype, and showed morphological variation within the range expected for the tobacco-feeding race of *M. persicae.* Esterase activity showed the level and variability expected for an R1 clone lacking mutations in the sodium channels (susceptible *kdr),* thus corresponding to a clone slightly resistant to organophosphate and carbamate, and susceptible to pyrethroid insecticides. The results are discussed in relation to the recent introduction of the tobacco-feeding race of *M. persicae* to Chile.