

**PYRETHROID AND NEONICOTINOIDS INSECTICIDE RESIDUES CAN INTERFERE IN THE FERTILITY LIFE TABLE OF *Panonychus citri* (MCGREGOR, 1916) (ACARI: TETRANYCHIDAE)?**

**INSETICIDAS PIRETROIDES E NEONICOTINOIDES PODEM INTERFERIR NA TABELA DE VIDA DE FERTILIDADE DE *Panonychus citri* (MCGREGOR, 1916) (ACARI: TETRANYCHIDAE)?**

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*Panonychus citri* is one of the most important secondary pests found in citrus, whose population has increased due to the excessive insecticides use, requiring its control. The aim of the study was to develop a fertility life table of *P. citri* influenced by pyrethroids and neonicotinoids insecticides, in laboratory. Valencia citrus leaves were sprayed in Potter tower (deposition of  $1.8 \pm 0.1 \mu\text{L} \cdot \text{cm}^{-2}$ ). The treatments evaluated were: imidacloprid (0.004%), thiamethoxam (0.0025%), esfenvalerate (0.00125%), deltamethrin (0.00075%), lambda-cyhalothrin (0.001%) and a control treatment (distilled water). After spraying and residues drying, a 5 cm diameter disks were made and it was placed on a cotton layer in a plastic tray and maintained in temperature-controlled room ( $25 \pm 1^\circ\text{C}$ ,  $60 \pm 10\%$  RH and 14L:10D photoperiod). We evaluated the duration and hatching rate, duration and survival of larvae, protonymph and deutonymph stages, sex ratio, pre-oviposition and oviposition period, daily and total fecundity and longevity of males and females. Evaluations were performed every 12 h. The highest values of  $R_o$  (net reproduction rate) were obtained in mites exposed to residues of imidacloprid (107.5), thiamethoxam (98.9) and lambda-cyhalothrin (94.8). Esfenvalerate and deltamethrin showed  $R_o$  of 78.7 and 79.9, respectively, and did not differ significantly to control treatment. Mites maintained on imidacloprid and thiamethoxam residues showed lower  $T_d$  (doubling time) and highest values of  $r_m$  (intrinsic growth rate) and  $\lambda$  (finite rate of increase) than those exposed to pyrethroids esfenvalerate, deltamethrin e lambda-cyhalothrin. Deltamethrin and esfenvalerate caused no significant increase in mite population, being equivalent to the control treatment. Therefore, *P. citri* population increasing by imidacloprid, thiamethoxam and lambda-cyhalothrin residues is directly related to the increase in the mite reproductive rates. Moreover, we believe that the influence of deltamethrin and esfenvalerate on the mite outbreaks could be detected in subsequent generations.

Keywords: Citrus red mite, outbreaks, insecticides.

Financier: CNPq, CAPES, FUNDECITRUS.