

6.4

Physiological selectivity of pesticides used in citrus culture on parasitoid *Tamarixia radiata* (Waterson, 1922) (Hymenoptera: Eulophidae)

Lira, A.C.S.¹, Zanardi, O.Z.², Beloti, V.H.², Yamamoto, P.T.², Parra, J.R.P.², and Carvalho, G.A.¹

¹Universidade Federal de Lavras, Lavras, Brasil

²ESALQ/Universidade de São Paulo, Piracicaba, Brasil

The Brazilian citrus culture is the second largest pesticides consumer, demanding roughly 17.5 kg of active ingredient per hectare annually. This research evaluated the physiological selectivity of 50 pesticides (22 insecticides, 16 acaricides, 10 fungicides, 1 mineral oil and 1 vegetable oil) used in citrus on parasitoid *Tamarixia radiata*. For that purpose, discs of the Valencia sweet orange variety, 3.5 cm diameter were sprayed using a Burkhard-Pottertower adjusted to a pressure of 15 lb.pol⁻², enabling the application of 1.8 ± 0.1 mg of chemical solution.cm⁻², according to the methodology proposed by IOBC/WPRS. After application, the discs were kept at room temperature for three hours to dry the residues. Next, the discs were placed in Petri dishes containing 2 mL of a not gelled agar-water solution at 2.5%. Then, adult parasitoids with no more than 48 hours after emergence were exposed to residues. The experimental design was completely randomized with 51 treatments and five replicates, and each replication comprised 10 adults of the parasitoid. The parasitoids survival was recorded 24 hours after exposure of adults to the toxic residues. Insecticides azadirachtin, etofenproxi, gamma-cyhalothrin, pyriproxyfen, tebufenozide, and diflubenzuron; the acaricides pyridaben, etoxazole, diflubenzuron, and fenpyroximate hexitiazoxi, and fungicides azoxystrobin, folpet, copper hydroxide, copper oxychloride, mancozeb + copper oxychloride, pyraclostrobin, thiophanate-methyl, and trifloxystrobin were innocuous to parasitoid *T. radiata*. The other pesticides should be evaluated under semi-field and field conditions to verify the impact on the parasitoid *T. radiata* in citrus.

References

ABBOTT, W.S. A method of computing the effectiveness of an insecticide. **Journal Economic Entomology**, Lanhan, v.18, n.2, p.265-267, 1925.

HASSAN, S.A. Métodos padronizados para testes de seletividade, com ênfase em *Trichogramma*, p.207-233. In: PARRA, J.R.P.; ZUCCHI, R.A. (eds.). **Trichogramma e o controle biológico aplicado**. Piracicaba, FEALQ, 1997, 324p.

NEVES, M.F.; TROMBIN, V.G.; MILAN, P.; LOPES, F.F.; CRESSONI, F.; KALAKI, R. **O retrato da citricultura brasileira**, 2011. Disponível em: <http://www.citrusbr.com.br/download/biblioteca/o_retrato_da_citricultura_brasileira_baixa.pdf>. Acesso em: 14 jul. 2011.