Selectivity of acetamiprid, azadirachtin and pyriproxifen to larvae and pupae of *Harmonia axyridis* Pallas (Coleoptera:Coccinellidae)

Luciana Mirande¹; Maria E. Perez¹,²; Guillermina Gutiérrez¹; Belén Gonzalez¹; Nicolás Desneux³; Marcela I. Schneider¹.

¹Centro de Estudios Parasitológicos y de Vectores (CEPAVE) (CONICET La Plata-UNLP). Buenos Aires. Argentina. Email: lumirande@conicet.gov.ar. ²Cátedra de Química Orgánica, Facultad de Ciencias Agrarias y Forestales, Universidad Nacional de La Plata. La Plata, Buenos Argentina. ³French National Institute for Agricultural Research (INRA), Sophia-Antipolis, France.

Neoclassical biological control involves the use of exotic biological control agents against local or well adapted pests. *Harmonia axyridis* is an exotic coccinellid which is currently considered an invasive alien ladybird in several world regions. In Argentina, it was introduced in 1996 and has spread rapidly. Its biological attributes and its less susceptibility to pesticides could be two valid hypotheses that could explain its dispersion and the displacement of other native coccinellids species.

In this work we examined the effect of three insecticides commonly used in horticultural crops on larvae and pupae of *H. axyridis*, under laboratory conditions. Commercial formulated insecticides were used at their full recommended field concentrations: Mospilan® (acetamiprid, 200 mg/l), Epingle® (pyriproxyfen, 75 mg/l) and Neem-Azal® (azadirachtin, 40 mg/l). Organisms were treated by topical application using acetone as solvent and controls were treated with solvent alone. The bioassays were replicated 30 times. Survival, development time and adult emergence were evaluated as ecotoxicological endpoints.

Regarding to the larvae bioassays, acetamiprid caused 100% mortality in second and fourth larva instars whereas those treated with azadirachtin and pyriproxyfen shown survival rates around 40 and 80% respectively. However, the length of immature developmental time was increased by both insecticides. Adult emergence was about 50% in pupae treated with acetamiprid and pyriproxyfen and around 20% in those exposed to azadirachtin. Moreover, the most of adult emerged presented morphological malformations (teratological effects), uncoordinated movements, and turn up of abdomen. As conclusion, larvae and pupae of *H. axyridis* showed a high susceptibility to the insecticides assed although more studies are needed to address to complete the toxicological profile of these insecticides and detoxification capacity of this exotic predator.

**Key words:** insecticide selectivity, neoclassical biological control, *Harmonia axyridis*.

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