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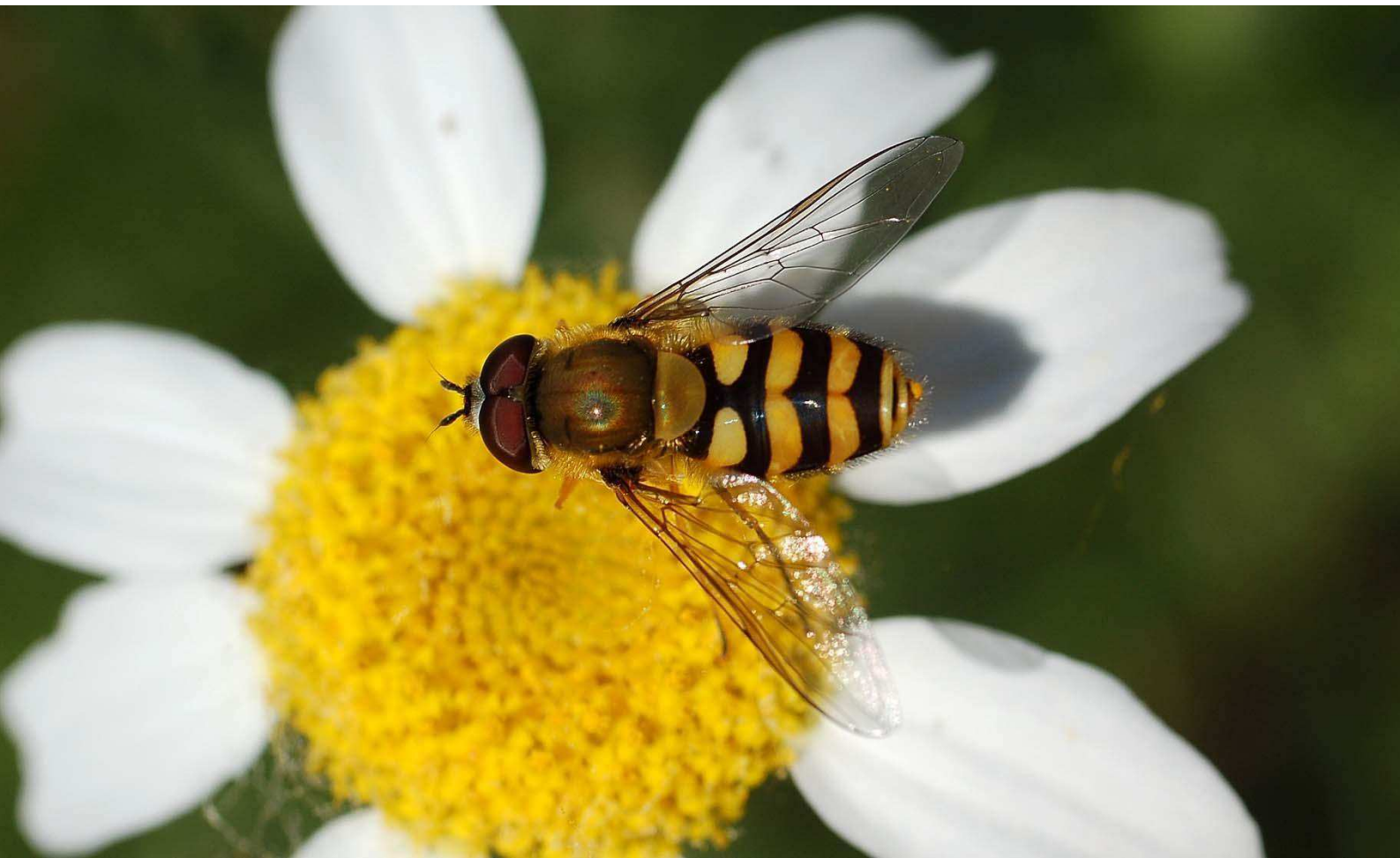

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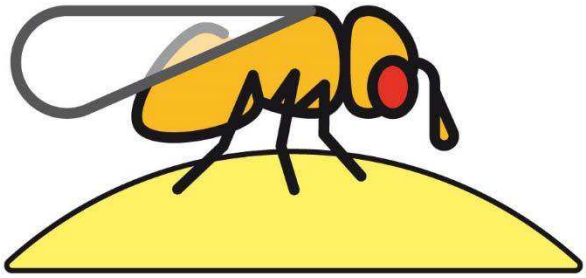

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Sociedad Española de Entomología Aplicada

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PANEL 19

Laboratory bioassay of different insecticides against *Ceratitis capitata* (Wied.) on apples.

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Ceratitis capitata (Wiedemann) is one of the main insect pests worldwide, attacking more than 300 different host fruits. Over the last few years, *C. capitata* control programmes have been carried out using conventional insecticides.

The main goal of this research was to test different active ingredients, which could be used in case of high or localized infestations, against two different *C. capitata* strains (from Italy and Spain). Laboratory bioassays were conducted to compare the efficacy of different insecticides, including Etofenprox, Cyazypir, Beta-ciflutrin, Spinosad and Thiacloprid, in preventing fruit injury from Mediterranean fruit fly. In apples this insecticides are registrated in Spanin excluded Etofenprox and Cyazypir; also in Italy except Cyazypir.

Each insecticide was tested at different concentrations included the recommended field dose. The apples were individually immerged in agitated insecticide solutions. Then individual dry apples were placed in a plastic box with insects. Water and dry food were provided to the flies during the bioassay. This kind of trials mimics the interaction between flies and insecticide when the insect stays, in summer, in the treated apple orchard. To reduce the damage in field conditions it is important that the insecticide residue on apples was able to kill the females within a fairly short time period or to inhibit their oviposition ability. The mortality of males and females and the oviposition of gravid females of *C. capitata* during the relatively short-term (40h) exposure to dry residues were monitored.

Preliminary results show that Etofenprox and Cyazypir reduced the number of oviposition holes per apple in both insect strains but did not cause an elevate mortality of females. This can suggest that the female is able to identify, with olfactory organs or other stimuli, the presence of insecticide. In fact, the choice test showed a difference between treated and non-treated groups for both products at the field doses.The rest of insecticide bioassays are ongoing.

Key words: *C. capitata*, laboratory bioassay, insecticide efficacy.