LABORATORY AND FIELD EFFICACY OF PYRIPROXYFEN AGAINST *CULEX (CULEX) PIPIENS* LINNAEUS, 1758 IN VALENCIA REGION (SPAIN)

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Insect growth regulators as third generation insecticides have emerged as a new weapon for insect control. They have been developed as a result of rational leads from basic biochemical research of metabolic disruptors, moult inhibitors and behavioural modifiers of insects. In this group, pyriproxyfen, a juvenile hormone analogue, has shown great efficacy for mosquito control in breaking the life cycle of the insect by preventing pre-adults from maturing into adults.

The effects of pyriproxyfen were evaluated in the field and the laboratory against different stages of *Culex (Culex) pipiens* Linnaeus 1758, the most common mosquito species in the Valencia region (Spain). Different concentrations of pyriproxyfen were used to measure the effect on larval development and metamorphosis.

Laboratory tests were carried out to determine lethal doses using three replicates of four concentrations in each test, together with appropriate controls, using standard World Health Organisation methods with 400 ml plastic cups.

In field tests, four sites in the test area were selected. The quality of the water (conductivity, pH, phosphate and nitrate, oxygen and temperature) was tested, before and after the experiments.

The rates of larval mortality were found to increase from lower to higher doses. Larval and pupal abnormalities were also observed.

All experiments confirmed the efficiency of this compound for use in the field in an IPM programme for mosquito control in Valencia.

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