

## Effects of buprofezin, pyriproxyfen and fenpropathrin on the reproductive parameters of *Trialeurodes vaporariorum* Westwood (Hom.: Aleyrodidae)

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### ABSTRACT

Using demographic toxicology, an experiment was carried out to evaluate efficiency of buprofezin, pyriproxyfen (Insect growth regulators) and fenpropathrin (a pyrethroid) on greenhouse whitefly *T. vaporariorum*. The experiment was carried out at 26±1 °C, 60±5% RH and photoperiod of 16:8 (L: D). Leaf cages were put on bean leaves which were already immersed in the sublethal doses of the above mentioned insecticides and a male and a virgin female were released inside the cage. Thereafter, various parameters such as adult longevity, daily fecundity rate and percentage of egg hatching were recorded.

Fenpropathrin reduced adult longevity (5.3 days) compared to the control (9.7 days), while buprofezin (8.1 days) and pyriproxyfen (9.4 days) didn't have any significant difference compared with the control. Number of eggs laid per female in fenpropathrin (24.6) treatment were significantly less than the control (53.4), but the other two insecticides didn't show any significant differences with the control. mean egg hatch percentage during lifetime in buprofezin (38%) and pyriproxyfen (24%) showed significant reduction compared with control (96%). Fenpropathrin didn't have any effects on the egg hatching. The effect of buprofezin and pyriproxyfen on the egg hatching caused heigh reduction in number of fertile egg per day, gross fertility rate and gross hatch rate compared with the control.

Although fenpropathrin was effective on adult mortality and oviposition rate, however, due to ultimate effects of buprofezin and pyriproxyfen on reproductive parameter, they cause sever reduction in population growth rate in following generation and could be recommended in IPM program.

**Key words:** *Trialeurodes vaporariorum*, Reproductive parameters, Buprofezin, Pyriproxyfen, Fenpropathrin

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