

## PYRETHROID TOXICITY TO *PERIPLANETA AMERICANA*

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The toxicity of pyrethroid insecticides is significantly affected by temperature, but the direction of the effect depends on various factors, including the insect species, the pyrethroid, and the range of temperatures tested. As a result some published work records toxicity increasing with higher temperatures, while other work suggests a decrease or perhaps a negative correlation over one range of temperature and a positive correlation on another range.

Such information is very important when you need to choose an insecticide to be used in a programme to control a pest in the field.

In this paper, the effects of four pyrethroids on *Periplaneta americana* were examined. The cockroaches were reared at 26°C, 60% RH and a photoperiod of 12:12 (L:D). Technical grade samples of pyrethroid were diluted in reagent grade acetone. The pyrethroids were cypermethrin, permethrin, cyfluthrin and fluvalinate.

Groups of twenty male cockroaches were topically treated with 1µl of insecticide solution applied to the thoracic dorsum. Four to six concentrations of each pyrethroid were tested. Each experiment was replicated three times and control groups were treated with acetone alone.

The cockroaches were given food and water, confined in petri dishes, and held in darkened rooms at 60% RH and at a temperature of either 19, 26 or 31°C. Mortality was recorded 24 h after treatment.

In this paper, the results of these experiments as well as other observations are presented.