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SYNERGISTIC BIO-PESTICIDE COMBINATION OF PYRETHRINS AND ROTENOIDS FOR THE CONTROL OF THE COCKROACH *AMERICANA PERIPLANETA*

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ABSTRACT

Pyrethrins and Rotenoids extracts from *Chrysanthemum cinerariaefolium* and *Tephrosia vogelii* plants respectively were combined at various ratio mixtures and tested against adult cockroach *Americana periplaneta* for their efficacy. A mortality rate of 86% in 200 minutes with a synergistic ratio mixture of 28.5:1 w/w was established. The mixture was found to have an observed LC_{50} of 0.23mg/g and a theoretical LC_{50} of 0.92mg/g calculated from the individual Pyrethrins and Rotenoids extracts. The synergism expressed as co-toxicity coefficient CC, was found to be 4. The photodegradation of Rotenoids in the combination was found to have a half life of $t_{1/2}$ of 6.1hrs compared to that of Rotenone and Pyrethrins of 3hrs respectively.

KEYWORDS: Synergism, Pyrethrins, Rotenoids, *Americana periplaneta*, Photodegradation