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Full Length Research Paper

Impact of hexaflumuron, a chitin synthesis inhibitor, on growth, development and reproductive performance of the progeny in *Callosobruchus maculatus* after adult treatments

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Abstract

Hexaflumuron, a benzoylphenylurea derivative, was tested topically at four doses (0.5, 1, 1.5 and 2 µg/insect) on adults of *Callosobruchus maculatus* (Coleoptera: Bruchidae) and first evaluated on fecundity, hatchability and viability of eggs, longevity and morphometric of oocytes. Our data show that the compound reduced the longevity and the fecundity. In addition, treatment affected growth and development of oocytes and egg -viability as evidenced by measurements the number of oocytes per ovaries and the size of basal follicle, respectively. In a second series of experiments, this IGR don't induced significant reduction of the percentage-hatchability but its affect very significantly the viability rate of eggs laid by F1 females. Duration of the embryonic and post – embryonic development of eggs laid by treated females increase when the concentration varied from 0 to 2 µg/µl.

Key words: Hexaflumuron, *Callosobruchus maculatus*, eggs development, fecundity, longevity, morphometric of oocytes, viability.

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