

Evaluation of the Controlling Efficacy on Rice Insect Pests With Three Biochemicals¹

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Summary

Three bio-chemicals, i.e. 4.5% Neemix, extracts of garlic and *Bacillus thuringiensis*, were tested for controlling rice insect pests, *Cnaphalococcus medinalis* Guene'e (rice leafroller), *Borbonicinnara* Wallace (rice skipper) and *Chilo suppressalis* Walker (rice stem borer) both in laboratory and paddy field conditions. In laboratory test, five 3rd. to 4th. instars larvae of rice leafroller, were caged on rice plants, then were sprayed with different bio-chemicals separately in the following day. One week after, the mortalities of larvae were determined. The result showed that the lethal effect of *Bacillus thuringiensis*(87%)which was comparable with that treated by chlorpyrifos (93%). The lethal effect of garlic extract (500-fold) was 73%,while Neemix was not effective for control of rice leafroller. The mortality of rice stem borer by Chlorpyrifos was 90 % and those by the biochemicals were in the range of 20 45%. In field conditions, the biochemicals were sprayed weekly for three times at the beginning of insect pests occurrence, *Bacillus thuringiensis* was the most effective for control of rice leafroller, followed by the Neemix. Garlic extract(500-fold) provided only 50% controlling efficiency to rice leafrollers. Similar results were also shown in control of rice skippers with these three biochemicals . The effects of *Bacillus thuringiensis* and garlic extract(500-fold) against rice stem boer were very close to that by treatment with chlorpyrifos, while Neemix with all three concentrations was less effective and unstable.

(Key word : Rice, Insect pests, biochemicals.)

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