

**INSECTICIDE RESISTANCE STUDIES ON BROWN  
PLANTHOPPER (*Nilaparvata lugens*) IN  
SELECTED ASIAN COUNTRIES**

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### CANDIDATE'S DECLARATION

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I hereby declare that I have checked this project and in my opinion, this project is adequate in terms of scope and quality for the award of the degree of Bachelor of Science (Hons.) Plantation Technology and Management, Faculty of Plantation and Agrotechnology, Universiti Teknologi MARA (UiTM).

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## ABSTRACT

### INSECTICIDE RESISTANCE STUDIES ON BROWN PLANTHOPPER (*Nilaparvata lugens*) IN SELECTED ASIAN COUNTRIES

Brown Planthopper (BPH) (*Nilaparvata lugens* Stål) is the major insect pest of rice crops throughout Asian. In recent years, *N. lugens* outbreaks have been common in Asian countries because the pest has developed medium to high levels of resistance to major insecticides, including organochlorines, organophosphates, carbamates, insect growth regulators and neonicotinoids. The effect of BPH attack caused the paddy field to have the hopperburn phenomena. These review were covered the literature studies of insecticide resistance of BPH for 15 years from 2001 until 2015. The objectives of this review are to determine the insecticides resistance of BPH according to the types of insecticides and to compare the resistance of BPH on selected Asian countries such as Malaysia, Japan, Korea, Philippines, India, China, and other countries. From the review, the result showed there are three groups of insecticides that are commonly used by the farmers in Asian are neonicotinoids, carbamates and others various groups of insecticides. The highest reported insecticides towards resistance to BPH are neonicotinoids. Meanwhile, China is the highest country was reported for insecticide resistance to BPH compared with other selected Asian countries. High resistance towards neonicotinoids due to the continuous used by the farmers even though it is not effective for controlling BPH. From these reviews, suggesting monitoring on the insecticides used by farmers to avoid continuous resistance to BPH.