

Wissarut Sukhaket 2011: Mechanisms of *Bph3*, *Qbph6* and *Qbph12* Resistant Genes/QTLs against *Nilaparvata lugens* (Stål) in Kao Dawk Mali 105 Introgression Lines. Master of Science (Entomology), Major Field: Entomology, Department of Entomology. Thesis Advisor: Associate Professor Intawat Burikam, Ph.D. 68 pages.

Mechanisms of resistance to brown planthopper, *Nilaparvata lugens* (Stål) of two introgression lines, UBNKD6–56 and UBN4–283, within *Bph3* resistant gene derived from BC<sub>3</sub>F<sub>7</sub> progenies of KDML105 and Rathu Heenati crosses, and the other two introgression lines, KPSKD17–173 and KPSKD55–220, carrying *Qbph6,12* resistant *QTLs*, unknown genes derived from BC<sub>4</sub>F<sub>8</sub> progenies of KDML105 and Abhaya crosses were determined. All of introgression lines were not found the antixenotic properties of the donors and the insects preferred settlement on them. However, these introgression lines were recorded low feeding rate, nymphal survival, growth index, functional plant loss index, tolerance index, and longer development period compared with KDML105 and the susceptible check TN1. The results suggested that the host–plant defense is the complex trait of resistant mechanisms between antibiosis and tolerance.

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