ABSTRACT

IDENTIFICATION OF BROWN PLANTHOPPER (*NILAPARVATA LUGENS* STALL) BIOTYPES FROM SEVERAL RICE AREAS IN LAMPUNG PROVINCE

By

MAMAN HARTAMAN

One of the most important characteristics of brown planthopper (*Nilaparvata lugens* Stall) is its ability to form a new biotype which able to break resistance of a rice plant variety. Formation of a new biotype makes brown planthopper becomes an important pest of rice plant that could reduce rice productivity significantly. The objectives of this research were: (1) to examine feeding suitability and preference of brown planthopper colonies collected from 8 rice locations in Lampung Province through honeydew test, rearing, and screening procedures using 4 rice cultivars (Pelita I/1, Mudgo, ASD-7, and Rathu Heenati); (2) to confirm the biotype of the tested brown planthopper colonies by comparing their population development through rearing and mass screening procedures in the standard cultivars as the host plants. This experiment was conducted in a completely randomized design using brown planthopper colonies collected from 8 locations (Tanggamus, Pringsewu I, Pringsewu II, Pesawaran, Lampung Selatan, Lampung Tengah I, Lampung Tengah II, dan Lampung Timur) as the treatments, each of which was repeated 3 times. Data were analyzed using analysis of variance at 5% and 1% and mean separation was conducted with the Duncan multiple range test. Examination of colony secretion recorded from Rathu Heenati cultivar (*Bph 3* gen) showed that the cultivar was resistant to very resistant to all tested colonies; Pelita I/1 (no *Bph* gen) was susceptible to moderately resistant; Mudgo (*Bph 1* gen) was moderately susceptible to moderately resistant; and ASD-7 (*bph 2* gen) was moderately resistant to resistant. Further population development examination with rearing and mass screening proceduresconfirmed that characteristics of the tested brown planthopper colonies from all 8 locations were in accordance with biotype 3.

Keywords: identification, biotype, brown planthopper, standard cultivars.