Screening of Rice Breeding Lines for Resistance to Brown Plant Hopper (*Nilaparvata lugens*)

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Rice productivity is greatly affected by Brown Plant Hopper (BPH) (*Nilaparvata lugens*), and it causes significant yield losses in rice production in Sri Lanka. Identification of resistant rice varieties is an important step to minimize the damage caused by BPH and to increase rice productivity. The study evaluated the damage of BPH in fifty rice breeding lines with two check varieties of Bg 300 (Resistant) and Bg 380 (Susceptible) by using standard seed box screening test. Rice breeding lines were scored (0 to 9 scale) following the standard evaluation system. Results indicated significant differences among the Rice breeding lines. Susceptible check recorded 16 days for the appearance of 90% wilting level. Out of fifty rice breeding lines, records showed that seven lines were resistant, eight lines were resistant / moderately resistant, Twenty two lines were moderately resistant, seven lines were moderately resistant / moderately susceptible, and the remaining six lines were susceptible in 16 days. There were three breeding lines which were identified with higher susceptibility than the susceptible check variety. This standard method adopted divided fifty breeding lines into six groups in the range of susceptibility to resistance to BPH. There are seven rice breeding lines that can be recommended as resistant to Brown plant hopper.

Keywords: Brown plant hopper, Resistant, Rice lines, Standard seed box screening test, Susceptible.