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EFFECTS OF *MELIA AZEDARACH* L. (MELIACEAE) SEED EXTRACT ON MORTALITY AND FOOD CONSUMPTION OF *SCIRPOPHAGA INCERTULAS* (LEPIDOPTERA: PYRALIDAE)

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Abstract

Botanical insecticide can reduce the negative impacts of using synthetic insecticide to the environment and human health. One of the potential plants to be developed as a source of ecologically friendly of insecticides is *Melia azedarach* (Meliaceae). Stem Borer is the major pest of rice crop in Indonesia and its control depend on synthetic insecticide. This study was conducted to evaluate the effects of *M. azedarach* methanol seed extract on mortality and food consumption of *Scirpophaga incertulas*. The toxicity test in order to know its LC_{50} and LC_{95} value was conducted with experimental method by using Completely Randomized Design which consisted of six treatments and each treatment was replicated three times. This research was evaluated against the third-instar larvae *S. incertulas* by dipping method on the pieces of paddy stem at concentration of 0.05%; 0.12%; 0.28%; 0.68%; 1.63% and control. Result of this research indicated that methanolic seed extract of *M. azedarach* had insecticidal activity with LC_{50} at concentration of 0.31% and LC_{95} at concentration of 3,18% in 96 hours after treatment. The treatments at concentration of 0.12%; 0.28%; 0.68% and 1.63%, reduced the number of food consumption of 25.43%; 28.21%; 22.55% and 13.39%. Methanolic seed extract of *M. azedarach* at concentration of 3.18% (equivalent to LC_{95}) and 6,35% (equivalent to 2 x LC_{95}) did not caused phytotoxic to paddy.

Keywords: Botanical insecticides, *Melia azedarach*, seed extract, *Scirpophaga incertulas*

Pendahuluan

Pestisida sintetik dianggap sebagai bahan pengendali hama penyakit yang paling praktis, mudah diperoleh, mudah dikerjakan dan hasilnya cepat terlihat. Padahal penggunaannya sering menimbulkan masalah seperti pencemaran lingkungan, keracunan terhadap manusia dan hewan peliharaan dan dapat mengakibatkan resistensi serta resurgensi bagi serangga hama (Thamrin dan Asikin, 2005). Upaya untuk mengurangi dampak dari penggunaan pestisida sintetik salah satunya mengganti dengan pestisida yang terbuat dari