Effect of six insecticides on oil palm pollinationg weevil, Elaeidobius kamerunicus (Coleoptera: Curculionidae)

ABSTRACT

The oil palm pollinator, Elaeidobius kamerunicus is a weevil that belongs to Curculionidae It has been found to have the highest capacity for efficient insect pollinator of oil palm. In order to control the damage from reaching or nearing the economic threshold level (ETL), planters are left with the option to use insecticides due to its fast action. Therefore, in this study the efficacy of chlorantraniliprole, cypermethrin, flubendiamide, Bacillus thuringiensis, cnidiadin and Isaria fumosorosea were tested on oil palm pollinator, E. kamerunicus. The pollens and pollinators were collected from FELDA Besout, Perak, Malaysia. Adult of E. kamerunicus were exposed to the insecticides residue and mortality was observed at 24, 48, 72 and 96 hours after exposure. The percentage of mortality E. kamerunicus was recorded to determine the insecticides efficacy. Mortality of E. kamerunicus was highest when exposed to cypermethrin and chlorantraniliprole with 100% mortality of the population, followed by flubendiamide (42%), B. thuringiensis (39%), cnidiadin (11%), I. fumosorosea (3%) and control (2%) at 96 hours post-exposure. Cypermethrin gave the shortest LT50 to killed E. kamerunicus at 17 hours, followed by chlorantraniliprole, flubendiamide and B. thuringiensis which were 31, 136 and 137 hours, respectively. Whilst, lethality index of cypermethrin showed the highest value, which was 91.50%, followed by chlorantraniliprole (76.50%), flubendiamide (27.25%), B. thuringiensis (25.25%), cnidiadin (5.25%) and I. fumosorosea (1.75%).

Keyword: Insecticide; Elaidobius kamerunicus; Lethal time; Mortality; Lethality index