Thip-u-sa Koomprawat 2009: Effect of *Bacillus thuringiensis* and a Mixture of Abamectin and Chlorfenapyr in Control the Insect Pests on Chinese Kale (*Brassica alboglabra* Bailey). Master of Science (Economic Botany), Major Field: Economic Botany, Division of Science. Thesis Advisor: Ms. Thitiya Pung, Ph.D. 77 pages.

Productions of Chinese kale were compared when using *Bacillus thuringiensis* var. *aizawai*, *B. thuringiensis* var. *kurstaki* and a mixture of abamectin and chlorfenapyr with recommended dose and double of the recommended dose for insect pests control. Completely randomized design with 5 treatments and 5 replicates were as followed: 1) Control unit spray with molan 10 g/20 L of water 2) *B. thuringiensis* var. *aizawai* 80 ml/20 L 3) *B. thuringiensis* var. *kurstaki* 90 g/20 L 4) a mixture of abamection 40 ml and chlorfenapyr 20 ml/20 L (recommended dose) 5) a mixture of abamectin 80 ml and chlorfenapyr 40 ml/20 L (double of the recommended dose). Chinese kale was planted in 25 plots (4x9 m^2) for 2 crops. The insecticides were sprayed every 5 days in first crop and every 4 days in second crop. Data were recorded in periodic of time after the germination until harvested. Data of plant growth i.e. fertility of kale were recorded in 30-45 days, height and leaf area were recorded in 20-45 days and weight of kale at 45 days. Data of insectivial damage i.e. field damage, leaf damage and number of insect (30-45 days). The insecticides in this study were not effect on Chinese kale's growth but were significantly different effected among treatments for the insectivial damage ($p < 0.05$). A mixture of abamectin and chlorfenapyr at the double of recommended dose showed the least field damage, leaf damage and number of *Plutella xylostella* L. and *Spodoptera litura* (Fabricius) followed by a mixture of abamectin and chlorfenapyr at the recommended dose, *B. thuringiensis* var. *kurstaki*, *B. thuringiensis* var. *aizawai* and control respectively. *B. thuringiensis* var. *kurstaki* showed the field damage, leaf damage and number of *Plutella xylostella* L. and *Spodoptera litura* (Fabricius) closed to a mixture of abamectin and chlorfenapyr at the recommended dose. Therefore, *B. thuringiensis* var. *kurstaki* could use to replace abamectin and chlorfenapyr in control *Plutella xylostella* L. and *Spodoptera litura*.

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