

## Abstract

Common cutworm is one of the pest on economically plants. Often found in all areas, and extensive damage to plants throughout the year. Therefore, research and development of attractant products is performed in order to study and test the effectiveness of the substance that attracts common cutworm combine with trap-design which match the behavior of common cutworm on highland Four vegetables which are common cutworm's food crops *i.e.* cabbage, lettuce, Chinese cabbage, Chinese kale, and commercial pheromones from Japan were selected and studied. Volatile substances of these selected samples were analyzed using HS-SPME / GC-MS. It was found that compounds from attractants and the leaves of various vegetables are *cis*-9-*trans*-12-Tetradecadienyl acetate, *cis*-3-Hexenyl acetate and *cis*-3-Hexen-1-ol. Therefore, *cis*-3-Hexenyl acetate and *cis*-3-Hexen-1-ol were the only two available substances for studying. Next, insect sample was prepared for the test. Study and test the efficiency of natural attractant were performed with tunnel equipment. It was found that Chinese cabbage, Chinese kale and lettuce extracts showed no difference on attracting common cutworm *i.e.* 28.57% of common cutworm were attracted. The attractants from the synthetic substance gave promising results. *Cis*-3-Hexen-1-ol attracted common cutworm in 58.33%. Study the pattern of traps that are suitable for the behavior of common cutworm by collecting interesting patterns of traps found that unitrap, delta trap and wing trap. Selection and modified the trap were began by searching from research data. Two patterns were designed. The first model was based on the box trap pattern. The second pattern was modified from unitrap. When 2 groups of substances were mixed and tested (10 drops of Chinese kale extract : 10 drops of *cis*-3-Hexen-1-ol) it attracted the common cutworm at 2.33 and 1.00 per trap. When used with a white triangle trap has the cost of common cutworm attracting is 39.90 baht per trap and the cost of producing a white triangle trap 16.10 baht per trap. Therefore, attractants with white triangle traps, costing 56 baht per trap.

**Keywords:** Attractant, Common cutworm, Insect Pest, Highland, Environmental-friendly