

## Abstract

Pheromones are the chemical substances with which the same species exchange messages and the role of sex pheromones is to attract the opposite sex to breed. Synthesized insect sex pheromones are used to trap pests and reduce pest breeding rate so as to control pest damages.

In Taiwan, *Ostrinia furnacalis* is the major corn pest. In the literature the formulation of *Ostrinia furnacalis* sex pheromone is still unresolved. This study aims to investigate the optimum dose, formulation, and trap conditions of synthesized *Ostrinia furnacalis* sex pheromone by adapting Taguchi Method.

After applying trend analysis and confirmation experiment, the study has reached the following optimum conditions:

1. The dose is 2.5mg.
2. The proportion of  $E12-14 : Ac / Z12-14 : Ac$  is 1 : 3.
3. The length of pheromone microtubule is between 6 cm and 7 cm.
4. The distance between the wing-shaped trap cover and the sticky board is 5 cm.

It is hoped that based on the research results the synthesized sex pheromones can be widely used in corn pest control and thus the environmentally friendly agriculture can be enhanced.