

Rattigan Submok 2014: Beneficial Predators and their Roles in Controlling Thrips on Lettuce under Hydroponics Cultivation. Doctor of Philosophy (Entomology), Major Field: Entomology, Department of Entomology.
Thesis Adviser: Assistant Professor Sopon Uraichuen, Dr.Ing. 106 pages.

The effectiveness of three predators in controlling four species of thrips was evaluated on three different cultivars each grown hydroponically in two separate greenhouses at Pathum-Thani and Nakhon Pathom Provinces, Thailand, during January to August 2013. Six cultivars of lettuce Iceberg Lettuce, Red Salad Bowl, Red Rapid, Green Oak, Red Oak and Butter Head were investigated in this research. The thysanopterous insect studied were *Frankliniella schultzei* (Trybom), *Astrothrips globiceps* (Karny), *Chaetanaphothrips orchidii* (Moulton) and *Megalurothrips usitatus* (Bagnall). *F. schultzei* was first detected in February and its population reached the peak in March on Iceberg Lettuce, which was most seriously damaged compared to two other cultivars, Red Salad Bowl and Red Rapid. However, *C. orchidii* populations attained their peaks on Green Oak and Butter Head in May 2013 and on Red Oak in February 2013. Of the three cultivars, Green Oak was most seriously affected. The population dispersion pattern of *F. schultzei* showed a uniform distribution on Green Oak and Red Oak, and a clumped distribution on Butter Head. The effectiveness of three predators, *Mallada basalis* (Walker), *Wollastoniella rotunda* Yasunaga&Miyamoto and *Orius maxidentex* Ghauri as a biological control agents against *F. schultzei* was studied under the laboratory and then the greenhouse conditions.

Student's signature

Thesis Advisor's signature