

Nattakarn Wichaikam 2011: Impacts of Land Uses on Soil Insects in the Royal Agricultural Station Angkhang Area, Fang District, Chiang Mai Province. Master of Science (Environmental Science), Major Field: Environmental Science, College of Environment. Thesis Advisor: Assistant Professor Weerawan Amornsak, Ph.D. 100 pages.

The effect of different land use types on soil insects was determined at the Royal Agricultural Station Angkhang, Chiang Mai was carry out during November 2008 to August 2009, respectively. Pitfall traps were used to collect soil insects from six land use types: Hill Evergreen Froest Area (HA), Fragrant Maple Plantation Plot (MP), Asian Pear Plot (AP), Tea Plot (TP), Strawberry Plot (SP), and Vegetable Plot (VP).

A total number of collected soil insects were 7,287 individuals. Eight insect orders, namely Collembola, Orthoptera, Blattodea, Dermaptera, Hemiptera, Coleoptera, Diptera, and Hymenoptera were recorded. The rank order of insect abundance was: AP, HA, TP, SP, MP and VP. Among these orders, Collembola was found in the highest number. The rank order of Collembola abundance was: HA, AP, TP, MP, SP and VP. The mean number of individuals of insects among different land uses types, seasons and each month were significantly different ($P<0.01$). In different season, land use types and samplings total individuals of soil insects were significantly different ($P<0.01$). In different land use types, soil insects in Collembola, Orthoptera, Blattodea, Hemiptera, Coleoptera and Hymenoptera orders were significantly different ($P<0.01$).

Land use types, environment, climatic condition, vegetation, ultivation, topography and soil property, especially. Soil organic matters are factors that have the impaction soil insect diversity in the studied area. Under high decomposing organic residues, favourable moisture and temperature conditions, decomposing activity by soil insects would increase and, inturn, improve soil fertility.

Student's signature

Thesis Advisor's signature