Prevention of Guava Fruit Flies Using New Trap From Combination of Baits With Methyl Eugenol Extract From Local Plants

Panchasin, Mekhim (School: Huaynamhomwittayakan School)
Aphai, Seksan (School: Huaynamhomwittayakan School)
Thoebthip, Suthini (School: Huaynamhomwittayakan School)

Guava is a commercial fruit of Nakhon Sawan Province, Thailand. From guava orchard surveys, most of fruit damage caused by fruit flies (Bactrocera spp). Therefore, this study aimed to invent an inexpensive but efficient fruit fly trap using the local plants containing methyl eugenol. The results showed that white holy basil (Ocimum sanctum L.) was the most attractive to fruit flies. Methyl eugenol was extracted with different solvents (water, ethanol and vegetable oil). It was found that the optimum extract condition of boiling fresh white holy basil leaves with vegetable oil at the ratio of 2:1 (w/w) could increase the number of trapped fruit flies from 22.00 ± 4.36 to 25.60 ± 2.07 comparing with those using fresh white holy basil alone. From investigation, this extract attracted mainly male fruit flies, therefore, the protein-based food from soymeal and brewer's yeast were tested to trap female. The results showed that brewer's yeast was more effective than soymeal. In addition, we have developed a new type of trap which was a yellow cylinder with a grate at the top of the trap and coat with glue made from rubber tree latex (Hevea brasiliensis Mull-Arg) outside and inside containing baits made from mixture of brewer's yeast and holy basil methyl eugenol extract at the ratio 2: 1 (w/w). The mixture was the most attractive to fruit flies which could attract more fruit flies. The experiment has shown that the mixture could effectively last for 6 weeks.

Awards Won: