

Diana Lopera

Mentor: Arnold Route, BS, University of Guam

Coordinating Center: University of Hawai'i

The Effects of Organic Insecticide on Aphids

Azadirachta indica (Neem Tree) is an evergreen plant native to India, but can be found in various tropical and semi-tropical regions. This versatile plant has many medicinal properties, but is also well known for its properties as a natural insecticide to common pests of cultivated plants. Neem extract infiltrates the hormone system of the insects, and results in death by starvation. Organic insecticides containing *Azadirachta indica* are selective, meaning that the only organisms affected will be the harmful pests.

In this experiment, the organic insecticide will be used on aphids, some of the most destructive insect pests found in crops. Though there are well over 4,000 species of aphids, this experiment will focus on three common aphids found in the Commonwealth of the Northern Mariana Islands (CNMI)'s cultivated crops: *Aphis gossypii*, *Aphis craccivora*, and *Myzes persicae*. The organic pesticide will consist of a mixture of neem leaves extract, distilled water, and 100% organic soap. Samples of each of the three species will be collected. Equal amounts of the insecticide will be sprayed onto the samples, and results will be compared to a control group. It is hypothesized that the organic insecticide will be successful, and will have significant effects in the decline of the population of the aphid samples.

Using organic pesticides play a major role on the environment's ecology, especially with the agricultural production that has been established here in the CNMI. Finding methods to suppress the presence of pests is essential in maintaining our cultivated plants.

Key words: Organic insecticide, *Azadirachta indica*, *Aphis gossypii*, *Aphis craccivora*, *Myzes persicae*