

2002 TAIWAN INTERNATIONAL SCIENCE FAIR

CATEGORY : Medicine and Health

PROJECT TITLE : The Neem Dream: Nature vs. Malaria""

AWARD : Third Award

SCHOOL : St. Paul's College

FINALISTS : Paras Malik

COUNTRY : Namibia

Abstract

Category of Project: Medicine and Health

Title of Project: The Neem Dream: Nature vs. Malaria”

Name of exhibitor: Paras Malik

Country: Namibia

Purpose of Investigation:

The purpose of investigation was to find and test an inexpensive and effective remedy against malaria. After a great deal of research, I learnt that an effective herbal remedy against malaria may be extracted from Neem (*Azadirachta indica*) leaves. This remedy is not very well known about all around the world, however, the Neem tree is found in many parts around the world and is therefore a very accessible and inexpensive remedy against malaria. The purpose of my project was also to inform people about the harmful effects of malaria on the human body, as well as to advise people on how to protect themselves.

Procedures:

In addition to a detailed description of malaria, as a harmful disease, a series of four experiments were conducted. The first experiment tested the insecticidal effects of Neem seed powder on a common pest: the ant. The second experiment tested the insecticidal effects of Neem seed powder on mosquitoes, (the carrier of malaria) when the powder is placed in water, the breeding grounds for mosquitoes. The third experiment was an extraction of quercetin, one of the active ingredients involved in fighting against malaria. The fourth experiment involved investigating the pesticidal properties of aqueous Neem seed powder applied to the leaves of plants.

Data:

In the first experiment, a one hundred percent mortality rate among the ants was discovered. In the second, a positive result was noted when more mosquitoes were noted dead in the water that had been treated than in the plain water. The flavonoid, quercetin, was successfully extracted and seen under UV light after conducting paper chromatography. In the fourth experiment, an improvement was noted in the condition of the leaves was noted upon comparing them with a previous photograph of the leaves.

Conclusions:

I noted that Neem seed as well as the leaves of the Neem proved to be an effective insecticide against common pests such as the ants as well as an effective pesticide in protecting other plants. I also successfully extracted and isolated the group of flavonoids in which the active ingredient quercetin is present.

評 語

The medicinal effects of Neem Tree is summarized and well presented in this paper. However, like “Traditional Chinese Medicine”(TCMs), there are just too many claims but seldom supported by “solid” evidences. It is our opinion that this study should be in the category of “Third Place Award”.