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EVALUATION OF SELECTED HERBS AS BOTANICAL
PESTICIDE AGAINST TOMATO PESTS

THESIS

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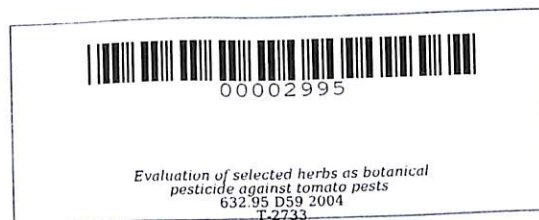
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**EVALUATION OF SELECTED HERBS AS BOTANICAL
PESTICIDE AGAINST TOMATO PESTS**

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ABSTRACT

DIMARANAN, ANTHONY U. Evaluation of Selected Herbs As Botanical Pesticide Against Tomato Pests. Undergraduate thesis. Bachelor of Science in Agriculture major in Horticulture. Cavite State University, Indang, Cavite. April 2004. Adviser: Dr Evelyn O. Singson.

The efficacy of selected herbs against tomato insect pests was evaluated in a study conducted at the Crop Science Department, CAFENR, Cavite, State University from November 2003 to February 2004. The study aimed to compare pest incidence in tomatoes sprayed with different botanical pesticides; identify the most effective botanical pesticide in controlling insect pests of tomato; and determine the effect of selected botanical pesticide application on the yield of tomato.

The botanicals used were sweet basil (*Ocimum basilicum*), oregano (*Coleus ambionicus*) and tarragon (*Artemisia dracunculus*). Diluted extracts (1:100) were applied to the tomato plants in raised beds four times (during vegetative, flowering and early and late fruiting stage). Insect monitoring to determine the effect of the botanicals was done a day before and after each application.

Insect pests observed in the experimental plants were green peach aphids, whiteflies, psyllids, mirid bug, common cutworm, tomato fruitworm and leaf miner. The leaf miner was the only pest present from the vegetative to late fruiting stage of tomato. Green peach aphids, whiteflies and common cutworm were only observed during the vegetative and flowering stages of tomato. The psyllids, mirid bugs and tomato fruit worms were observed only during the early and late fruiting stages of tomato.

Among herbs evaluated, oregano emerged as the most effective control against green peach aphids and whiteflies. This is also effective in controlling common cutworm during the vegetative stage of tomato and psyllids during the early fruiting stage of tomato. Sweet basil was found the most effective in reducing the population of mirid bug during the early fruiting stage of tomato and psyllids during the late fruiting stage. The efficacy of tarragon was observed in cutworm population during the flowering stage and in mirid bug during the late fruiting stage of tomato.

Yield produced was highest from plants applied with sweet basil and tarragon extracts and Bt insecticide. They were followed by those treated with oregano extract and untreated plants.

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EVALUATION OF SELECTED HERBS AS BOTANICAL PESTICIDE AGAINST TOMATO PESTS^{1/}

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INTRODUCTION

Pests are one of the major problems in tomato production. Farmers overcome this problem by applying pesticides to the crop. However, continuous application of the persistent, broadly toxic synthetic pesticides has given rise to several ecological problems such as environmental contamination by residues, health hazards, undesirable effects on non-target organisms and rapid development of insect resistant strain to the action of many synthetic insecticides. In addition, these pesticides are very expensive (Mojica, 1997).

One of the practices conducive to improved crop production is crop protection that employs various means to protect crops from damages caused by various kinds of organisms collectively known as pests. The most common means to control these pests is to use pesticide, a pest-killing or pest-controlling agent.