

**FARMERS PREFERANCE FOR AGRO
CHEMICALS USED FOR FOOD
CROPS**

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**FARMERS PREFERENCE FOR
AGRO-CHEMICALS USED FOR FOOD CROPS**

By

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Sri Lanka.

Declaration

The work described in this thesis was carried out by me, under the Supervision of Prof. Arthur Bamunuarachchi and the report on this has not been submitted in whole or in part to any University or any other institution for another degree or diploma.

24-11-2006

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Date of submission



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Student's signature

Project Supervisor,

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Prof. Arthur Bamunuarachchi

I here by certify that the above statement made by the candidate is true and that this thesis is suitable for submission to the University for the purpose of evaluation



Prof. A. Bamunuarachchi

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Sri Lanka.

Dedication

To

My Family

And

Loving teachers

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FARMERS PREFERENCE FOR AGRO-CHEMICALS USED FOR FOOD CROPS

Chandani Priyadarshika Kumarapeli

ABSTRACT

The vast majority of Sri Lankans especially those who live in rural areas depend on agriculture for their livelihood and chemical pesticides and fertilizers are playing a vital role with farming nowadays.

Therefore the rate of adoption of new technologies using pesticides, chemical fertilizer was increasing very rapidly. The survey presents possible information about the pesticides and their benefits as well as risk factors, especially health aspects and the competitive market and farmers preferences with a great interest.

The survey consisted of two major parts and it included mainly a preliminary identification and a comparative study. The preliminary data were collected by inspecting the open market, interacting with Agrigarien office's sales centers, reputed company or corporations involving in agrochemical business and classified by their trade name , brand name and the active ingredient and inspecting of wether it is a solid, liquid or an emulsifier.

Comparative study was a totally farmer's survey and it was carried out by the completed questionnaire and the questionnaire was designed to collect relevant information from the farmers on lifestyle information, behaviour in the field, pesticide usage, competitive products of pesticides, medical history of their family and etc.

The study was carried out in Nuwara-Eliya and Kurunegala districts and for convenience of sampling, the farmer who is available was questioned.

The two types of analysing methods were applied to interpret the results and in qualitative analysis, researcher finalized the responses received and in quantitative analysis, researcher supervised and tabulated the results obtained.

The survey results show that the number of different product range under the major pesticide classes such as insecticide, fungicide and weedicide and it was identified according to their active ingredients. Most of them were available as emulsifier concentration or as wettable powder in the market place.

Most of the farmers were identified in the age group between 30 to 50 and educational background of farmers was found to be rather low. Most of them were using chemical pesticides to control or kill the pests and the most were considering the quick reaction of chemical pesticides than other reason. The most common way of awareness of pesticides was recorded as from sellers information and the formal information source was recorded as radio.

The results show that, herbicides are the widely used pesticide in selected areas and the results revealed that majority of farmers were using glyphosate category weedicide. Most common insecticide category was carbofuran and the mostly used fungicide category was found as mancozeb.

According to multiple responses, most of them responded that price was the main considerable one for selecting any pesticide. The majority of the farmers had knowledge about correct pesticides for relevant pest action and the results suggest that the farmers often ignored technical recommendations and they were using pesticides by their own experience without considering the suitable time duration even.

Majority of farm families was with 3-5 members and contribution to the labor by the family members was identified as an important factor. It was very difficult to find out the actual situation relating chemical pesticides with spontaneous abortions.

The problem to be examined within this study was to analyze some of the factors that can have an impact on pesticide prices and product availability. Most of the time farmers are concerned about the price, sales discounts and the credit and loan facility while they choose any brand of pesticides in selected areas.

Chapter 1

INTRODUCTION

1.1 General Introduction

Sri Lanka is an Island in the south Asian region and geographically situated in the Indian Ocean off the cost of southern India. It is an agricultural country with a population of 19.5 million people and has a wealth of fresh vegetables, fruits, and excellent spices and also produces the best teas in the world¹.

Agriculture is mainly spans in four sectors in Sri Lanka and they are paddy cultivation, vegetable and other field crops, plantation crops and livestock farming. The agriculture sector accounts for nearly 22 per cent of foreign exchange earnings, predominantly from plantation crops such as tea, rubber and coconut, which cover an extent of 889,000 hectares³. Rice being the staple food, and rice cultivation is done during the major season (maha) and is done during the minor season (yala). Before two three decades the population in Sri Lanka was relatively small and hence food requirements remained at a lower level. Cultivation was done less intensively and usually only during one season. Food security was the principal need of the people in Sri Lanka. Under such a system of cultivation, there was little possibility for pests to multiply and spread. Further, traditionally grown crop varieties were well adapted to the environment, and hence pest attack was negligible.

Farmers in Sri Lanka have had cultural, mechanical and physical methods of pest control in the past, or practiced no pest control. Pesticide application was limited, because the yield potential of traditional varieties was too low to justify additional investments. Many paddy lands were cultivated only during the main wet season. In addition, they incorporated a lot of organic matter such as straw, lopping from hedges

and fences, dung and other animal wastes to the soil. Once the paddy crop was harvested cattle were allowed to feed on the stubble and weeds and that helped not only in destroying weeds but also in enriching the soil in the most natural way by adding considerable amount of cow dung to the land.

With the increase in population, it is necessary to adjust the challenge of increasing food supply to feed a growing population. More land was brought under the plough and there was year round cultivation which provided food almost throughout the year for pests. With the developments of methods to destroy pests, natural pest resistance of these crops had disappeared. Pesticides and chemical fertilizers were recommended as a package to exploit the high yield potential of new varieties. New technologies developed were attractive to farmers and easy to practice. Therefore the rate of adoption of new technologies using pesticides, chemical fertilizer was very rapid. People were encouraged to cultivate every bit of arable land.

As they were more vulnerable to weeds, proper weed control methods had to be adopted. Manual weeding was laborious, resulting in high cost of cultivation. Consequently, chemical weedicides became more convenient and cheap. Same situation happened to the insect and fungi controlling systems in agricultural sector.

In the face of a growing human population and increased urbanization, demand for pesticides did rise. Farmers must increase yields on increasingly fewer farm acres. Farmers use pesticides to protect crops from insect pests, weeds and fungal diseases while they are growing, prevent rats, mice, flies and other insects from contaminating foods whilst they are being stored, by stopping food crops being contaminated by fungi and expect a high yield. Sometimes they do not worry about the safeguard of human health as well as their safeguard during the application of pesticides.