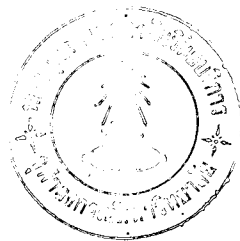


## Chapter I

### Introduction



The sunflower, an annual herb, well suited a dry habitat, and resistant to insects and various diseases, is a very useful plant as a source of oil. The oil extracted from the sunflower seed is polyunsaturated, is easily digested and does not accumulate in the body. The residue remaining after oil extraction contains much protein that is very useful as an animal food. The oil is not only used for salad and cooking oil, but it is also used popularly in the manufacture of margarine, paints, varnishes and soap. Unlike some other agricultural products such as water melons, grapes, oranges, vegetables and mushrooms, the sunflower seed does not easily rot and can be kept for a long time in the market. In addition to the seed, almost every other part of the sunflower can be utilized.

The sunflower is well known to the world as a commercial crop. It has been planted for a long time in many countries such as The Republic of Soviet Union, France, Canada, The United State of America, Australia, Italy, Peru and Uruquay, etc. Nowadays since the world demand of sunflower seed has greatly increased, these countries do not produced adequate amounts.<sup>1</sup>

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<sup>1</sup>Heiser, Charles B. Jr. "The Sunflower" (University of Oklahoma, press, Norman, 1976.) : 60, 66.

Appropriate geographical habitats for growing sunflower has been studied, and many provinces in Thailand such as Chiang Mai, Chainat, Khon Kaen, Nakhon Ratchasima, Pechaburi, Ratchaburi and Kanchanaburi are found to be suitable for the cultivation of this crop.

This thesis attempts to present problems concerning planning seed production, and marketing in order to provide a new prospective and professional guidance for planters and to encourage utilization of the sunflower seed in industry. This will result in increase importance of the sunflower as a commercial plant which in the future could become an important export product of Thailand.

#### Objectives

1. To study the factors which have caused problems in sunflower cultivation in the past, to set up a plan to solve these problems and to encourage planters to plant the sunflower as an economic crop.
2. To study the relationship between the sunflower's supply and demand in Thailand. The result will be used in planning for sunflower cultivation in the future.
3. To study the marketing character of the sunflower seed in the past, the problems encountered and ways to solve these problems so that the sunflower can be grown profitably in Thailand.

### Advantages of a Research Project

1. To add information about sunflower's production by pointing out its uses in various industries, and thus promote the sunflower to be grown commercially.
2. To produce guidelines for the successful marketing of the sunflower and to expand the sunflower market in Thailand.
3. To stimulate governors who are concerned with the professional support needed for agricultural workers.

### Scope of Research Project

The sunflower is not well known in Thailand, even though there was a support for plant experimentation among the planters who were interested during the year 1973, and 1974. They faced several problems in planting technique, uncertainty in investing and were not sure of the market in the future. Sunflower planting was therefore discontinued since then and industry has not used sunflower seeds either. Thus there is failure in getting the information and any related statistical figures about sunflower seed industries to those interested. Most of the information in this thesis was collected from the ideas and experiences of some planters who have grown sunflowers before. So this research is intended as a preliminary guide to more precise studies in the future.

### Categories of Studies.

Chapter 2 A general study such as description, history and uses of the sunflower.

Chapter 3 Analysis of data obtained from research concerning planters.

Chapter 4 Evaluation of the survey and analysis results including suggestions.

Chapter 5 Conclusion and suggestions which will be useful to support and encourage the commercial cultivation of the sunflower in the future.

### Methodology

According to the very limited information mentioned above, this study can only be based on preliminary research. The information are collected from the following sources :

1) Primary Data :- the primary data was collected by surveying. The questionnaires, which were used to study the primary data, were divided into two parts.

Part 1 This part was proposed to study problems of planters who had grown sunflowers including planters who were growing sunflowers.

Part 2 This part is proposed to study how planters, who has never grown sunflowers had been acquainted with the plant and how much they are interested in growing the plant.

2. Secondary data : - The secondary data was collected by reviewing references, various articles and referential documents of some authorities : The Applied Science Institution, Department of Medical Sciences and Agricultural Developing Department.

### Field Study

The researcher could not study the whole population. Therefore there must be sampling to select some candidates of the population.

### Sampling Design

Multi - Stage Sampling Technique<sup>2</sup> was outlined for the sampling design of the field study - Six provinces in various parts of the country were surveyed and only those provinces which had cultivated sunflowers during the past ten years or were suitable habitats for growing were used.

In each province, two amphoes\* were selected, in which their habitats were traced to see whether they were conducive to sunflower

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<sup>2</sup>Narasri Vivanchkul "Business Research Methodology" Chulalongkorn University press, Bangkok, 1979. p.105.

\* Amphoe means county.

cultivation or had cultivated sunflowers before. Each ampees, two districts were selected by convenient sampling<sup>3</sup> and sampling group were then chosen by random sampling<sup>4</sup>. Thirty planters were chosen as samples from each provinces and the total number was 180 samples. Sampling provinces were as follows : Chiang Mai, Prachuab Kiri Khan, Ratchaburi, Kanchanaburi, Nakhon Ratchasima and Khen Kaen.



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<sup>3</sup>Ibid, P. 102.

<sup>4</sup>Ibid, P. 103.