

CHAPTER 1

INTRODUCTION

1.1 Statement and Significance of the Study

In recent years, noni fruit products are increasingly demanded in the market. All regional in Thailand can cultivate the noni fruits. The biggest market of noni fruit in Thailand is in Sa-kaew province. Mr. Boonchuoy Suthitham, a cultivator in this province, can sell different types of noni fruit products in a large amount, for example flesh slices noni fruits at 3000 – 5000 kg/month, full ripened noni at 3000 – 4000 kg/month and dried noni at 3000 – 5000 kg/month (Sabiletou, 2002). This example demonstrates that noni fruit products have a good acceptance among Thai people.

Some Thai conventional use of Yoh (noni fruits) are included as herbs, for its medicinal properties, and consumed like a vegetable in daily life. Since 2001, Dr. Neil Solomon, a researcher in U.S. has advertised the amazing beneficial compounds of noni juice to maintain health and their medicinal benefit. Nowadays, the consumption of noni fruit and its products are increasingly more popular (Malisuwan, 2003).

The ancient Thai culture used noni fruits and other parts of the noni tree as herbs which had several clinical functions, such as headaches, cough, cold, gout, arthritis, gallstone ulcers, and other diseases (Rojjanarujirat, 2003). At present, the Thailand Ministry of Public Health allows noni juices and noni products as food supplements if they are written on the packaging label. However, the Ministry does not permit to advertise noni products as pharmaceutical products with medical purposes (Subcharoen, 2002).

In general, noni fruits have medicinal benefits. Future studies of noni are directed for clinical benefit to maintain health and to prevent some major various chronic diseases, such as anti-inflammation anti-tumour as an alternative medicine. Nowadays, noni is mainly consumed as a supplementary food, such as noni juice. Noni products are one of the popular health food that are commercially available in stores. However, most noni products do not have labels that show the scientific information about the quantity of nutrients that would be benefit to consumers.

Therefore, the main aim of the present study was to provide more information regarding the nutritional value of noni juices and their nutrients, especially the antioxidant properties.

There is only a little information about the nutritional value and antioxidants of noni and less data regarding the quality and quantity of its antioxidant properties and phytochemicals. Beside that, several factors including the processing technology, such as pasteurization or other thermal processing and storage conditions of noni juices will affect the nutritional value and the antioxidant properties of noni products. Therefore this project was aimed to provide this unavailable information. The project studied the effect of different noni processing, different harvesting periods and storage conditions on the chemical composition of noni juice and its antioxidant properties.

1.2 Objectives

The project studied about changes in nutritional value and antioxidant properties of noni juice during different processing, ripening stage and storage condition.

1.2.1 Study the antioxidant activities and chemical composition of different harvesting stages of noni fruit.

1.2.2 Study the antioxidant properties of different noni juice processing, including heat treatments and fermentation.

1.2.3 Evaluate the antioxidant properties of heat-treated noni juices during different storage temperatures.

1.3 Usefulness of the research

Information about the nutritional value and antioxidants of noni and data regarding the quality and quantity of its antioxidant properties and phytochemicals of noni and its product.