

## CHAPTER I

### INTRODUCTION



In 1975, the committee of the Research Division, Academic Section Faculty of Science, at Chulalongkorn University has approved a research project concerning a preservation of lime fruit either in the form of fresh lime fruit or in the form of fresh lime juice. The purpose of this project, expected by the Research Division, is to get information about the preservation which can be applied to other fruits of the same type so to prevent the shortage of the citrus fruits and its products and also to promote the citrus industries and agriculture.

Fresh lime fruits (*Citrus Aurantifolia*) in Thailand, are used as fresh drink and sour taste ingredient for improving flavor of food. But there is a large amount of lime fruits during June and October. Besides this period of the year, fresh lime fruits are expensive and rarely found in the market. Therefore, preservation of lime juice is interesting. The use of chemical additive is one way of preservation. It was found in the previous study that the lime juice treated with 200, 300 ppm of potassium metabisulfite or potassium sorbate was acceptable in term of vitamin C and appearance after 4 months when it was kept at refrigerator temperature, and 2 months at room temperature. A serious problem in the production of juice from citrus fruit is the bitterness developed in the juice after extraction from the fruit, therefore limonin content in the juice is

interesting and should be considered. After using the preserved lime juice, the quality of lime juice is changed due to incorporated air.

This work can be divided into two parts. The first part is concerned with the study of limonin in preserved lime juice with single additive during storage. The second part is concerned with the study of the effect of incorporated air of preserved lime juice during storage at refrigerator temperature and room temperature and the results were compared with the combined effect of the previous work.