

Chapter I

INTRODUCTION



Fresh lime fruits (Citrus aurantifolia) in Thailand are used as a beverage and an important cooking ingredient for improving flavor of foods. For this reason, the demand of lime fruits is very high. But the lime fruit production is seasonal, peak production period normally lasts from May to November and there will be a shortage during February to April each year. During the shortage period fresh lime fruits are very expensive and not readily available in the market. Sometimes the price can be ten times higher than the ordinary price. Therefore, preservation of lime in the forms of whole fruit and juice during the peak production period will be very useful, as this will ensure that a constant supply of lime fruits is available at reasonable price through-out the year. Furthermore this will benefit the citrus industries such as lime juice manufacturing as well as the lime growers.

Much experimental work has been done on the storage of various kinds of fruit in a controlled atmosphere (C.A.). Little work of this kind has been done on citrus fruits especially lime fruits. Therefore the first objective in this study is to carry out experimental work on controlled atmosphere storage of fresh limes, so that whole fresh lime fruits can be kept in good

conditions and for a period long enough to supplement the supply of lime during the off season.

Lime juice in concentrated form has the advantages of saving storage, packaging and transportating cost as well as providing convenience in cooking preparation. A considerable amount of work has been done on the concentration of citrus juices mostly on orange juice. This research is intended to study the effect of vacuum concentration, storage temperature, storage time and preservatives on the physical and chemical changes of concentrated lime juice in order to obtain preliminary data and have some idea in the feasibility of setting up lime juice concentrate industries in Thailand.