

CHAPTER 1

INTRODUCTION

1.1 Principles and rationale

Thailand was blessed with large areas appropriate for pineapple growing. The leading thirteen provinces for pineapple production in Thailand are Prachuap Khiri Khan, Chumphon, Phetchaburi, Chon Buri, Rayong, Trat, Chachoengsao, Kanchanaburi, Ratchaburi, Uthai Thani, Nong Khai, Nakhon Phanom and Lampang (Anupunt *et al.*, 2000). Large-scale cultivation of pineapple for fresh fruit consumption is limited to a few varieties of the Cayenne group. The variety “Pattavia” of the Smooth Cayenne group was the most popular of all in view of the size of its fruits, the highest yield and its acceptable eating quality. For fresh consumption, the fruit is graded on its appearance and eating quality of the flesh as the first and the second grades. The first grade is usually sweeter has less acid taste and more translucency than the second grade. The external appearance does not correspond to the internal quality at different stages of growth (Smith, 1984).

There are a few definitive data on the effects of climatic factors on inflorescences or fruit development of pineapple and its influence on fruit quality after harvest. The rate of fruit growth apparently is determined primarily by temperature. After flowering, fruit size may increase somewhat with increasing sunlight (Monselise, 1986). In two studies with pineapple planted at different times of the year and treated with a growth regulator, it was shown that fruit development was slower during seasons with cool temperature (Smith, 1977). No data were collected on the time elapsed from flowering to fruit maturity.

In Thailand, three pineapple crops are harvested per year. The main crop is harvested during the rainy season June to July this is called the regular season crop. The early and late crops are harvested during May to April and November to December, respectively. Seasonal condition and fruit maturity are the important factors in affecting physico-chemical properties and quality of fruit. Harvesting season is also important factor affecting maturity. Consumers point out that there is seasonal variation in quality. This research aims to assess the quality of pineapple fruit in terms of morphological, physico-chemical and sensory attributes as related to maturity and environmental factors in different cropping seasons.

1.2 Objectives

1.2.1 To assess the changes of morphological and physico-chemical attributes in relation to maturity and cropping seasons.

1.2.2 To assess the changes of sensory attributes in relation to different ripening stages and cropping seasons.

1.3 Usefulness of research

1.3.1 To understand the impact of cropping seasons on morphological, physico-chemical properties and sensory attributes of pineapple fruit.

1.3.2 To indicate the differences in quality of pineapple fruit suitable for usage as fresh, canned, and also for storage.

1.4 Experiment scope

1.4.1 Quality attributes, changes in morphological, physico-chemical properties, and changes in sensory attributes were investigated in relation to maturity and cropping seasons.

1.4.2 Quality attributes related to quality factors, maturity and cropping seasons.