

**EFFECTS OF DIFFERENT EMULSIFIERS ON PHYSICAL
PROPERTIES AND SENSORY EVALUATION OF PINK GUAVA
JUICE FORTIFIED WITH VITAMIN E**

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ABSTRACT

EFFECTS OF DIFFERENT EMULSIFIERS ON PHYSICAL PROPERTIES AND SENSORY EVALUATION OF PINK GUAVA JUICE FORTIFIED WITH VITAMIN E

Different types of emulsifiers were added into pink guava juice fortified with vitamin E. The type of emulsifiers used includes arabic gum, alginate and Tween 80, and the juices were subjected to the same processing method. The objective of this study is to evaluate the stability of different emulsifiers on the vitamin E fortified pink guava juice. The emulsion stability was analysed based on the physical properties (viscosity, total soluble solid, colour, cloudiness and average particle size) and the separation of emulsion was observed by measuring sedimentation of particles after storage for two months. Sensory evaluations were conducted to measure acceptability of different emulsifiers in terms of appearance, taste, aroma, mouthfeel and overall acceptability. From the results obtained, it was found that Tween 80 was the best emulsifier to be added in pink guava juice fortified with vitamin E. The juice produced has the least cloudiness, lowest average particle size and has highest emulsion stability after two months of storage. However, the panelist acceptability was found to be in contrast with the physical analysis results. Tween 80 was the least preferred due to its aftertaste. While all the other emulsifiers (arabic gum and alginate) and control showed no significant difference among each other on the overall acceptability scores.

CHAPTER 1

INTRODUCTION

1.1 Background

Since January 2005, pink guava fruit trees were grown in Sungai Wangi Estate, Setiawan, Perak by Golden Hope Food and Beverages Sdn. Bhd (GHFB) for its commercialised juice and puree production. Pink guava fruit trees covered around 500 ha of land in Sungai Wangi Estate. It is slowly becoming an important crop of the company. GHFB estimates that upon maturity, plantation produces 11,000 tones of the fruit annually, which will yield 8,000 tones of pink guava puree. They are gaining high amount of profits by exporting pink guava juice overseas. Recently, their subsidiary company, Golden Hope Biorganic Sdn. Bhd is producing vitamin E extract from palm pressed oil. Thus, to widen pink guava juice commercialisation, addition of an amount of vitamin E can add values on increasing nutritional benefits of pink guava juice which is well-known of its high vitamin C content.