## TURMERIC OIL AS ANTIOXIDATION AGENT FOR FRESH CUT FRUITS

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### ABSTRACT

Nowadays, people are more aware of the healthy eating habit and therefore, due to safety reason, the demand to use natural additives as antioxidation agents for fresh cut products like fresh cut fruits is increasing. This is because the use of synthetic and chemical preservatives has gained a lot of attention to the public since some of it causes odd allergic reactions towards sensitive individuals. Furthermore, the basis appearance of the fresh cut product like fresh cut fruits has to be appealing during the time of purchase because it will be judged by the customer and the appearance of the fresh cut fruits will be the decision-maker for the customer on whether to buy the product or not to buy it. In this research project, edible coating will be used to prevent the enzymatic browning of the fruit (apple) that caused by the Polyphenol Oxidase (PPOs). Starch and glycerol will be used in the formulation of edible coating film and turmeric oil will be added as the additives. Turmeric oil is one of the antioxidation agents that come from spices and herbs. With a ratio of starch:glycerol, 1:0.25, turmeric oil will be added to the formulation and homogenized for 5 minutes at 16000 rpm. Then, the prepared apple slices will be dipped into the emulsion and the coated and uncoated apple slices will be stored and compared afterwards. The coated and uncoated apple slices will be compared by their weight loss, colour changes and sensory evaluation. Also, the degree of oxidation will also be characterized using the assay for PPO activity method.

# *Keywords*-Turmeric Oil, Fresh-Cut Fruits, Edible coatings, Apple, Antioxidation Agents

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#### **CHAPTER 1**

## **INTRODUCTION**

## 1.1 RESEARCH BACKGROUND

#### 1.1.1 Fresh Cut Fruits

Fresh cut fruits are basically fruits that has been trimmed or reshaped from its original state, (ex; cut and peeled) to become another usable products but still remain in its fresh state. Commonly, fresh cut fruits will offer a highly nutritious and health commodities to the consumer. However, it is hard to maintain its fresh state mainly due to the removal of their pure vigilant skin and the damage caused to cells and tissues by cutting and trimming (Watada and Qi, 1999). The tissue of the fruits will become wounded and it will lead to the negative effects on the product quality such as enzymatic or oxidative browning, production of undesirable flavours and odours and texture breakdown. It will also shorten their shelf-life due to their high rate of deterioration. Nowadays, consumers are more conscious about the importance of healthy eating habits. Therefore, the basis appearance of the fresh cut fruits such as the size, shape, form, colour, condition and the freshness during the time of the purchase will be judged by the consumer.