DETERMINATION OF TOTAL PHENOLIC CONTENT AT DIFFERENT TEMPERATURE AND STORAGE DURATION OF STRAWBERRY AT LOCAL MARKET

NOORWINA BINTI JINGKOI

BACHELOR OF SCIENCE (HONS.) CHEMISTRY
FACULTY OF APPLIED SCIENCES
UNIVERSITI TEKNOLOGI MARA

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ABSTRACT

DETERMINATION OF TOTAL PHENOLIC COMPOUND AT DIFFERENT TEMPERATURE AND STORAGE DURATION OF STRAWBERRY AT LOCAL MARKET

Effect of time and temperature on the content of the total polyphenol of commercial strawberry fruits in local market was studied. The polyphenol content was determined using Folin-Ciocalteu method and using uv-vis spectrophotometer. All analysis was carried out for fresh strawberry fruit and after storage at 5°C and -20°C for 24, 48 and 72 hours. The values was obtained at 5°C were 0.19±0.002, 2.11±0.056 and 4.33±0.028mg GAE/ 100g. The values obtained from storage at -20°C were 0.18±0.013, 0.53±0.008 and 3.46±0.023mg GAE/100g. The increased in the content of polyphenols upon storage was reflected by the other factor such as wound-like reasons or might be due to longer storage duration time.

CHAPTER 1

INTRODUCTION

1.1 Background of study

Fruit is one of the major dietary sources of various antioxidant phytocompounds for humans. Fruit of Fragaria species(strawberry), as well as citrus fruit are 'super food' that are high in antioxidant and phytochemical that block the development of cancer cells have been touted as natures way to fight off the potentially devastating disease. As one of the most popular fruits today, these tasty strawberries are known to be significant source of the vitamin C, polyphenols and anthocyanins. This chemical profile arises to a noticeable antioxidant potential. All these characters are strictly dependent by genetics factors, carefully selected by conventional breeding techniques in commercial strawberry cultivars, but are also influenced by environmental factors such as ochard place and year of production (Bacchella et al., 2008).

Many scientists believe that antioxidant can prevent cellular and tissue damage in the human body. Polyphenol are groups of substances found in plants and characterized by the presence of more than one phenol unit per molecules. Polyphenols have several health benefits, including reducing the risk of vascular disease, cognitive decline and cancer. Polyphenols and anthocyanin amounts are very influenced by two factors, variety of strawberry and environmental (Du et. al., 2009).