

CURRENT RESEARCH AND DEVELOPMENT IN BIOTECHNOLOGY ENGINEERING AT IIUM

VOLUME II

Editors:

Ibrahim Ali Noorbatcha
Hamzah Mohd. Salleh
Mohamed Elwathig Saeed Mirghani
Raha Ahmad Raus



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CHAPTER 4

SENSORY EVALUATION AND CONTAMINATION TEST ON MANGO FRUIT (*MANGIFERA INDICA*) PUREE

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ABSTRACT

Cancer is a disease which is known throughout the world. There are many available commercial and alternative treatments to treat cancer. Mango (*Mangifera indica* L.) is one the popular tropical fruits found in Malaysia. A wide variety of mangoes can easily be found in this country. Mangoes are known for their vibrant flesh colour, juicy texture, sweet flavour, vitamins and minerals. Besides that, mango also contains anticancer and antiproliferation properties. Siamese mango was selected for optimization of puree sterilization. Mango puree was sterilized and stored for approximately five days. The sensory evaluation and contamination test was performed on sterilized and stored puree. Contamination test shows no growth for *Staphylococcus aureus* and *E. coli*/coliform. Puree 2 (85°C, 15 min sterilization time and IC₅₀ 970) and Puree 10 (83°C, 8 min sterilization time, and IC₅₀ 640) have satisfied most respondents. Variation of temperature and time for puree sterilization does affect the appearance, taste and texture of the puree.

Keywords: MCF-7 cells, Vero cells, heat treatment, mango fruit, taxol drug

INTRODUCTION

Mango (*Mangifera indica* L.) is one of the popular tropical fruits in Malaysia besides mangosteen, rambutan, durian, papaya, watermelon and many more. It is common in this country that the used of this fruit is for food consumption and product such as juices, jams, pickles, purees and even in chocolate as additional taste. Mango is rich in a variety of phytochemicals (Ajila, Naidu and Prasada, 2007a) and nutrients. Mango contains various classes of polyphenols, carotenoids, and ascorbic acid demonstrating different health-promoting properties, mainly from their antioxidant activities (Talcott et al., 2005). β -carotene is the most abundant carotenoid in several cultivars. The nutritional value of mango as a source of vitamin C and provitamin A should also be emphasized (Rocha Ribeiro et al., 2007). β -carotene in mango is believed to be the active elements in anticancer treatment and anti-proliferation (Kim et al., 2010). In this study,