



Effect of Substituting Coconut Milk with Palm Milk on Shelf Life, Physicochemical and Sensory Properties of Nasi Dagang

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Abstract— A popular Malaysian dish called Nasi Dagang (ND), which originated in Terengganu, consists of steamed rice in coconut milk (CM), fish curry, and additional ingredients such as pickled cucumber and carrots. However, CM with high saturated fat content is always associated with many diseases due to the increased amount of high-density lipoprotein cholesterol. Thus, palm milk (PM) at various concentrations (ND0 with 100% CM, ND1 substituted with 25% PM, ND2 substituted with 50% PM, ND3 substituted with 75% PM and ND4 substituted with 100% PM) were investigated in the present study to examine its effect on the physicochemical and sensory characteristics of ND. Substitution of PM in ND demonstrated an apparent effect on its nutritional value, shelf life, and quality, as evidenced by a greater calcium (4.51 ppm), carbohydrates (16.51%), and lesser fat (5.93%) contents in ND4 than that of ND0. This study discovered that although ND with PM substitution took a longer time to retrograde and turn rancid, the rising moisture content fostered the growth of microorganisms. According to this study, ND prepared with PM has a softer texture since it contains less amylose content (0.37%). Next, sensory acceptability analysis demonstrated that ND1 obtained a higher score than other ND for all aspects, including overall acceptance (7.24). The results showed that substitution of PM in ND had a strong influence on its nutritional value, shelf life, and sensory acceptability. Hence, it can be concluded that PM has a potential to replace CM in ND with certain amount of concentration.

Keywords— Coconut milk; Nasi Dagang; Palm milk; Steamed rice; Traditional Cuisines.

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I. INTRODUCTION

Malaysia is a multicultural nation that its culture and history are reflected in its food. Malaysian traditional cuisines are passed down via generations and successors. Besides, Malaysians prefer their meals to be flavourful with coconut milk and most of the traditional dishes comprises of a perfect combination of spicy, sweet, and sour flavours. In addition, rice is an essential food for Malaysians, and it has been consumed daily whereby their traditional dishes are mostly based on rice. One of the famous Malaysian traditional cuisines is Nasi Dagang (ND) that consists of steamed rice in coconut milk, fish curry, and

additional ingredients such as pickled cucumber and carrots which originates from Terengganu [1]. Other than that, ND is also popular in Kelantan. ND has been a staple food for the Malaysian and the travellers because when traveling long distances, the traders will bring rice filled with curry and pickles wrapped in banana leaves [1]. The difference between ND Terengganu and Kelantan is the types of rice that has been used. Nasi Dagang Terengganu (NDT) is white in colour and slightly glossy and it is traditionally served with cod fish curry and pickles while Nasi Dagang Kelantan (NDK) uses specific rice that make it purplish white in colour, more glutinous and it is