

## **PENGARUH PERENDAMAN KULIT JERUK BALI (*Citrus maxima*) DALAM LARUTAN GARAM DAN KAPUR SIRIH TERHADAP SIFAT FISIK, KIMIA, DAN SENSORIS MARMALADE**

### **INTISARI**

**BRIANTI RETNO UTAMI**

**14/363768/TP/10843**

Produksi buah jeruk bali (*Citrus maxima*) di Indonesia mencapai 511 kg/ton setiap tahunnya. Sayangnya, hampir 50% dari produksi buah jeruk bali di Indonesia, kulit jeruk bali hanya menjadi limbah. Kulit dari buah jeruk bali memiliki kandungan pektin yang tinggi sebesar 8,5% dan senyawa antioksidan yaitu naringin dan limonin. Melihat potensi tersebut, pembuatan marmalade dilakukan untuk menggunakan limbah kulit jeruk bali. Permasalahan yang muncul akibat penambahan kulit jeruk bali pada produk marmalade disebabkan rasa pahit. Solusi untuk menutupi rasa pahit dengan cara perendaman kulit buah jeruk bali dalam larutan garam dan kapur sirih.

Penelitian ini menggunakan Rancangan Acak Lengkap, satu faktor yaitu konsentrasi dari larutan garam dan kapur sirih pada proses perendaman kulit buah jeruk bali dengan 7 perlakuan yaitu kontrol; larutan garam 1%; 3%; 5%; serta larutan kapur sirih 1%; 3%; 5% dengan 3 kali pengulangan. Parameter fisik yang diuji adalah pH dan warna, uji sifat kimia menentukan kadar air dan kadar abu, dan uji sensoris yang diuji adalah atribut warna, aroma, rasa, tekstur, serta keseluruhan dengan uji hedonik dan uji skoring. Formulasi penambahan konsentrasi larutan terbaik dipilih berdasarkan hasil pengujian sifat fisik, kimia dan sensoris pada marmalade jeruk bali.

Hasil penelitian menyatakan bahwa penambahan konsentrasi larutan kapur sirih 5% merupakan menyebabkan peningkatan nilai pH menjadi 7,01; peningkatan nilai L (*lightness*) menjadi 24,26; peningkatan nilai b (*yellowness*) menjadi 10,92; peningkatan nilai a (*redness*) menjadi 1,05. Kadar air dan abu berurutan yaitu 51,73% dan 0,63%. Hasil uji sensoris menunjukkan bahwa penambahan larutan kapur sirih konsentrasi 5% merupakan perlakuan terbaik untuk menutupi rasa pahit yang ada di kulit buah jeruk bali dengan nilai atribut rasa pengujian hedonik sebesar 5,17; kemanisan sebesar 5,27; dan kepahitan sebesar 5,03. Pengujian sensoris secara skoring menunjukkan terjadinya penurunan rasa pahit dan peningkatan rasa manis.

Kata Kunci: Marmalade, Jeruk bali, Perendaman, Konsentrasi, Larutan garam, Larutan kapur sirih.

Pembimbing: Dr.rer.nat. Lucia Dhiantika Witasari, S.Farm., Apt., M.Biotech., Yunika Mayangsari, S.Si., M.Biotech., Ph.D.

## **EFFECT OF SOAKING ON POMELO PEELS (*Citrus maxima*) IN SALINE AND BETEL LIME SOLUTION FOR THE PHYSICAL, CHEMICAL, AND SENSORY PROPERTIES OF MARMALADE**

### **ABSTRACT**

**BRIANTI RETNO UTAMI**

**14/363768/TP/10843**

The production of pomelo (*Citrus maxima*) in Indonesia reaches 511 kg/ton every year. Unfortunately, at nearly 50% of the pomelo production in Indonesia, the peel is becoming a waste. The pomelo peel has a high pectin content of 8.5% and antioxidant compounds, namely naringin and limonin. Looking at the potential, pomelo marmalades are made to create a zero-waste of pomelo peels. The arising problem is that the addition of pomelo peels in marmalade products can cause a bitter taste during consumption. Therefore, a solution is given to mask the bitter taste by soaking the pomelo peels in saline and betel lime solution.

This study used a completely randomized design with a single factor experiment, that is the concentration of saline and betel lime solution in the process of soaking the pomelo peels with 7 treatments, namely control; saline solution of 1%; 3%; 5%; and betel lime solution of 1%; 3%; 5% with threefold repetitions. The physical parameters tested were pH and color, the chemical properties were carried out to determine moisture and ash content, and the sensory attributes tested were color, scent, taste, texture, and overall products with hedonic test and scoring test. The formulation of the best solution's concentration was chosen based on the results of the physical, chemical, and sensory trait testing on the final product of pomelo marmalades.

The results showed that the addition of 5% concentration of betel lime solution increased the pH value to 7.01; an increase in value of L (lightness) to 24.26; an increase in value of b (yellowness) to 10.92; an increase in value of a (redness) to 1.05. The moisture and ash content respectively are 51.73% and 0.63%. Sensory test results showed that the addition of a 5% concentration of betel lime solution was the best treatment for masking the bitter taste in pomelo peels with the taste attribute of the hedonic test value of 5.17; the sweetness of 5.27; and bitterness of 5.03. Sensory testing by scoring showed a decrease in the intensity of bitterness and an increase in the intensity of sweetness.

**Keywords:** marmalade, pomelo, soaking, concentration, saline solution, betel lime solution.

**Supervisors:** Dr.rer.nat. Lucia Dhiantika Witasari, S.Farm., Apt., M.Biotech., Yunika Mayangsari, S.Si., M.Biotech., Ph.D.