

## **PENGARUH PENAMBAHAN EKSTRAK KUNYIT PUTIH (*Curcuma zedoaria* Rosc.) TERHADAP BILANGAN PEROKSIDA, ASAM LEMAK BEBAS, DAN UMUR SIMPAN SANTAN PASTEURISASI**

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### **ABSTRAK**

**Latar Belakang :** Santan kelapa memiliki kandungan air (54%) dan lemak (35-37%) yang cukup tinggi sehingga mudah mengalami kerusakan seperti munculnya ketengikan akibat proses hidrolisis dan oksidasi lemak. Adanya penambahan ekstrak kunyit putih dengan kandungan antioksidan alami diharapkan dapat meningkatkan mutu santan.

**Tujuan:** Untuk menganalisis pengaruh pemberian ekstrak kunyit putih terhadap kadar asam lemak bebas, bilangan peroksida, dan umur simpan santan pasteurisasi.

**Metode:** Santan pasteurisasi terdiri dari kelompok penambahan ekstrak kunyit putih 0% (kontrol) dan 0,6% (perlakuan kunyit) dikemas dalam kemasan *aluminium foil pouch* dengan penyimpanan suhu 4°C, 10°C, dan 24°C selama 21 hari dan pengujian parameter setiap 7 hari sekali. Penentuan bilangan peroksida menggunakan metode *Ferrous Oxidation-Xylenol Orange* (FOX), asam lemak bebas metode *rapid colorimetric*, dan umur simpan metode *Accelerated Shelf Life Testing* (ASLT) persamaan Arrhenius.

**Hasil:** Bilangan peroksida dan asam lemak bebas mengalami peningkatan selama penyimpanan 21 hari dengan nilai kelompok perlakuan kunyit lebih rendah dibandingkan kelompok kontrol. Hasil perhitungan umur simpan pada kelompok kontrol yaitu selama 3,0 hari pada suhu 4°C, 2,6 hari suhu 10°C, dan 1,9 hari suhu 24°C, sedangkan pada kelompok perlakuan kunyit memiliki umur simpan yang lebih lama, yaitu selama 5,1 hari pada suhu 4°C, 4,3 hari suhu 10°C, dan 3,0 hari suhu 24°C. **Simpulan:** Terdapat pengaruh penambahan ekstrak kunyit putih terhadap kadar asam lemak bebas, bilangan peroksida, dan umur simpan santan pasteurisasi. Santan pasteurisasi penyimpanan suhu 4°C memiliki umur simpan paling lama, yaitu selama 5,1 hari.

**Kata Kunci:** asam lemak bebas, bilangan peroksida, ekstrak kunyit putih, santan pasteurisasi, umur simpan

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# EFFECT OF ADDITION OF WHITE TURMERIC EXTRACT (*Curcuma zedoaria* Rosc.) ON THE PEROXIDE VALUE, FREE FATTY ACIDS, AND SHELF LIFE OF PASTEURIZED COCONUT MILK

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## ABSTRACT

**Background:** Coconut milk contains water (54%) and fat (35-37%) that could easily get damaged, such as rancidity due to the process of hydrolysis and oxidation of fat. The addition of white turmeric extract with natural antioxidant content is expected to increase the quality of coconut milk.

**Objective:** To analyze the effect of white turmeric extract on the peroxide value, free fatty acid, and shelf life of pasteurized coconut milk.

**Methods:** Pasteurized coconut milk consisted of a group of adding white turmeric extract at 0% (control) and 0.6% (turmeric treatment) packaged in aluminum foil pouch packaging with storage temperatures of 4°C, 10°C, and 24°C for 21 days and tested parameters every 7 days. The peroxide value was determined using Ferrous Oxidation-Xylenol Orange (FOX) method, free fatty acids used the rapid colorimetric method, and estimation of shelf life was carried out using the Accelerated Shelf Life Testing (ASLT) method with the Arrhenius equation model.

**Result:** Peroxide value and fatty acid increased during 21-day storage, with turmeric treatment group values lower than the control group. The results of the calculation of shelf life in the control group were for 3.0 days at a temperature of 4°C, 2.6 days at a temperature of 10°C, and 1.9 days at a temperature of 24°C. Meanwhile, the turmeric treatment group had a longer shelf life, which was for 5.1 days at 4°C,

4.3 days at a temperature of 10°C, and 3.0 days at a temperature of 24°C.

**Conclusion:** The addition of white turmeric extract affects the peroxide value, free fatty acids, and shelf life of pasteurized coconut milk. Pasteurized coconut milk with 4°C temperature storage has the longest shelf life, which is 5.1 days.

**Keywords:** Free fatty acids, peroxide value, white turmeric extract, pasteurized coconut milk, shelf life

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