

Analisis Teknis Karakteristik Fisik *Dark Chocolate* Tahan Panas yang Dibuat Dengan Variasi Proporsi *Cocoa Butter Replacer* dan Waktu Pembentukan Kristal

INTISARI

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Dark chocolate yang diproduksi menggunakan lemak kakao sepenuhnya memiliki titik leleh 33-34°C yang menyebabkan cokelat mudah meleleh pada saat di suhu ruang. Titik leleh cokelat dapat ditingkatkan dengan menerapkan metode *tempering* dan mencampurkan *Cocoa Butter Replacer* (CBR). Penelitian ini bertujuan untuk mengkaji pengaruh penggunaan *Cocoa Butter Replacer* dan waktu pembentukan kristal terhadap karakteristik *dark chocolate* yang meliputi kadar air, ukuran partikel, densitas, warna, kekerasan, dan titik leleh pada variasi waktu pembentukan kristal. Variasi proporsi CBR pada penelitian ini 0%, 70%, 75%, 80%, 85%, dan 90% dan variasi waktu pembentukan kristal hari ke-1, hari ke-2, hari ke-3, hari ke-4, hari ke-8, dan hari ke-12. *Dark Chocolate* pada penelitian ini dibuat dengan formulasi 36% lemak, 40 % gula, dan 24% padatan kakao. Hasil penelitian menunjukkan bahwa semakin banyak jumlah CBR yang ditambahkan maka, nilai kekerasan, L^* , a^* , b^* dan titik leleh cenderung naik. Kemudian, semakin lama waktu pembentukan kristal nilai kekerasan dan L^* cenderung naik dan titik leleh cenderung turun, namun tidak berpengaruh pada nilai a^* dan b^* . Berdasarkan hasil penelitian, dapat diketahui bahwa kadar air cokelat yang diproduksi berada dibawah kadar air maksimal cokelat batang dan penambahan CBR dapat meningkatkan titik leleh dan warna. Variasi yang cocok diterapkan untuk industri skala kecil adalah sampel CBR75% dengan lama waktu pembentukan kristal selama 12 hari.

Kata kunci: *Dark Chocolate*, Lemak Kakao, *Cocoa Butter Replacer*, Karakteristik Cokelat

**Technical Analysis of Physical Characteristics of Heat Resistant Dark
Chocolate Made with Variation in the Proportion of Cocoa Butter Replacer
and Time of Crystal Formation**

ABSTRACT

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Dark chocolate that produced using full cocoa butter which has melting point 33-34°C and it caused the chocolate to melt easily at room temperature. The melting point of dark chocolate can be enhanced by applying the method of tempering and mixing Cocoa Butter Replacer (CBR). The aims of this study was to examine the effect of Cocoa Butter Replacer against the characteristics of dark chocolate including moisture content, particle size, density, color, hardness, and melting point on the variation in time of crystal formation. Proportion variation of CBR on this research were 0%, 70%, 75%, 80%, 85%, and 90% while time of crystal formation variation were 1st day, 2nd day, 3rd day, 4th day, 8th day and 12th day. Dark Chocolate has made with formulation of 36% fat, 40% sugar, and 24% cocoa solids. This research showed that the more CBR was added, the values of hardness, L*, a*, b* and melting point tended to increase. Then, the longer the crystal formation time, has an effect on hardness, L* and melting tended to decrease, but it had no effect on a* and b* values. Based on the result of the study, it can be seen that moisture content of dark chocolate that produced were lower than maximum of moisture content of dark chocolate bar and the addition of CBR can increase the melting point and color. A suitable variation for small-scale industries are dark chocolate with crystalline formation time of 12 days.

Keywords: Dark Chocolate, Cocoa Butter, Cocoa Butter Replacer, Characteristics of Dark Chocolate