

# **IMPROVING THE QUALITY OF COCONUT COOKING OIL IN *KOPERASI W* PURWOREJO REGENCY**

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**DEPARTMENT OF AGROINDUSTRIAL TECHNOLOGY  
FACULTY OF AGRICULTURAL  
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IPB UNIVERSITY  
BOGOR  
2025**

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## ABSTRACT

MUHAMMAD FIRDAUS RAMADHAN. Improving the Quality of Coconut Oil at the W Cooperative Purworejo Regency. Supervised by SAPTA RAHARJA DEA and the personnel in charge in a business unit of Cooperative W.

*Coconut oil quality is significantly influenced by its visual appearance, with clarity and color being key indicators of refinement. This study aimed to evaluate the effectiveness of bentonite as an adsorbent in the purification of coconut oil, focusing on its impact on color parameters using the CIE Lab color system. Raw coconut oil (F0) and samples treated with varying amounts of bentonite—7.5012 grams (F1), 5.0662 grams (F2), and 3.5913 grams (F3)—were analyzed for  $L^*$  (lightness),  $a^*$  (red-green axis),  $b^*$  (yellow-blue axis), Chroma, and Hue angle. The untreated oil exhibited low lightness ( $L^* \approx 66.8$ ), a strong green tone ( $a^* \approx -17.9$ ), and high chroma ( $\approx 17.8$ ), indicating the presence of natural pigments such as chlorophyll. After bentonite treatment, all samples showed significant improvement in visual quality, with increased lightness ( $L^* > 94$ ), and  $a^*$  and  $b^*$  values near zero, reflecting a more neutral and refined appearance. Chroma values decreased substantially ( $< 0.66$ ), confirming reduced color saturation. Among the treatments, the 3.5913 grams bentonite dose (F3) produced results comparable to higher doses, making it the most efficient in terms of material use and purification performance. This study confirms that bentonite is an effective agent for improving the color of coconut oil and suggests that a 3.5913 grams dosage is optimal for achieving desirable visual quality. cooking oil.*

**Keywords:** Coconut oil, bentonite, purification, adsorbent

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# **IMPROVING THE QUALITY OF COCONUT COOKING OIL IN *KOPERASI W* PURWOREJO REGENCY**

**MUHAMMAD FIRDAUS RAMADHAN**

Undergraduate Final Report  
As one of the requirements for obtaining a Bachelor  
Engineering Degree with Honours  
at Department of Agroindustrial Technology

**DEPARTMENT OF AGROINDUSTRIAL TECHNOLOGY  
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May this research contribute to the advancement of knowledge and benefit those who are in need.

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*Muhammad Firdaus Ramadhan*

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