

**PENGARUH KADAR AIR DAN LAMA PENYIMPANAN
TERHADAP ASAM LEMAK BEBAS (*FREE FATTY ACID*)
SEBAGAI KARAKTERISTIK MUTU CPO PRODUKSI PT.
GUNUNG MARAS LESTARI PALM OIL MILL BANGKA
BELITUNG**

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ABSTRAK

Crude Palm Oil (CPO) merupakan minyak kelapa sawit mentah yang diproses dari ekstraksi daging buah kelapa sawit. Kandungan asam lemak bebas dan kadar air merupakan parameter mutu yang dapat mempengaruhi kualitas dari CPO. Kualitas CPO yang diproduksi oleh PT. Gunung Maras Lestari (PT. GML) dikatakan fluktuasi. Hal tersebut dapat disebabkan oleh beberapa faktor seperti guncangan saat transportasi bahan baku sehingga mempercepat kerusakan, kondisi musim, penyimpanan dan proses produksi. Oleh karena itu, diperlukan evaluasi terhadap kadar air dan asam lemak bebas dengan menggunakan SNI. 01-2901-2006 dan standar *The Palm Oil Refiners of Malaysia* (PORAM). Penelitian ini bertujuan untuk mengetahui hubungan kadar air dan lama penyimpanan terhadap kadar asam lemak bebas.

Penelitian dilakukan pada 15 Juli 2016 sampai 28 Juli 2016. Data yang diperoleh adalah kadar air, kadar asam lemak bebas, suhu CPO dan lama penyimpanan. Pengujian sampel kadar air dilakukan dengan metode oven dan pengujian asam lemak bebas dengan metode titrasi. Hasil data pengujian kadar air dan asam lemak bebas kemudian dievaluasi dengan menggunakan SNI.01-2901-2006 dan standar PORAM tentang CPO. Untuk mengetahui hubungan kadar air dengan asam lemak bebas, dan hubungan lama penyimpanan dengan kadar asam lemak bebas CPO, metode yang digunakan adalah korelasi pearson.

Hasil yang diperoleh adalah CPO PT. GML sudah sesuai dengan standar PORAM dengan kadar air kurang dari 0,25% dan asam lemak bebas kurang dari 5%. Evaluasi CPO PT. GML menggunakan SNI.01-2901-2006 dengan syarat kadar air maksimal 0,5% sudah terpenuhi, sedangkan asam lemak bebas maksimal 0,5% belum terpenuhi. Hasil CPO PT. GML memiliki rata-rata yaitu 0,161% untuk kadar air dan 4,558% untuk asam lemak bebas. Hasil analisis hubungan antara lama penyimpanan dan asam lemak bebas adalah 0,3372 dan 0,858, artinya hubungan lama penyimpanan dan asam lemak bebas berbanding lurus, semakin lama penyimpanan maka semakin tinggi asam lemak bebas. Hasil analisis hubungan antara kadar air dan asam lemak bebas adalah 0,4299, artinya kadar air memiliki pengaruh lemah terhadap kenaikan asam lemak bebas. Untuk menjaga kualitas CPO, sebaiknya perusahaan tetap mengoptimalkan pengawasan CPO yang diproduksi dan melakukan pengecekan kelayakan tangki timbun secara berkala.

Kata kunci: asam lemak bebas, CPO, kadar air, penyimpanan

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**THE EFFECT OF WATER CONTENT AND STORAGE TIME
TOWARD FREE FATTY ACID AS CPO QUALITY
CHARACTERISTICS OF PT. MOUNTAIN MARAS LESTARI
PALM OIL MILL PRODUCTION BANGKA BELITUNG**

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ABSTRACT

Crude Palm Oil (CPO) product is an oil that was processed from the extraction of palm fruits. The content of free fatty acid and moisture were a quality parameter that can affect the quality of CPO. Quality of CPO produced by PT. Gunung Maras Lestari (PT GML) was fluctuated. It was caused by shocks during transportation of raw materials thus accelerating damage, season condition, storage and production process. Therefore, it was necessary to evaluate the water content and free fatty acid used SNI. 01-2901-2006 and PORAM standard. This study also aim to determine the relationship of moisture content and storage time toward free fatty acid content.

The research was conducted on July 15, 2016 until July 28, 2016. The data result are water content, free fatty acid, CPO temperature and storage time. Water content analysis was conducted by oven method and free fatty acid content analysis was conducted by titration method. Result of test data of water content and free fatty acid was evaluated by using SNI.01-2901-2006 and PORAM about CPO. To determine the correlation of water content and free fatty acid, the relationship storage time and free fatty acid content of CPO used was Pearson correlation method.

The result of the study showed that the PT. GML CPO have qualified PORAM standard, in moisture content which less than 0.25% and free fatty acid which was less than 5%. Evaluation of CPO from PT. GML used SNI.01-2901-2006 with the requirement of 0.5% maximum moisture content have fulfilled, while maximum free fatty acid 0.5% have not fulfilled. CPO from PT. GML had an average of 0.161% for moisture content and 4.558% for free fatty acids. The results of the analysis of the correlation between storage time and free fatty acids were 0.3372 and 0.858, it means that the correlation of storage time and free fatty acids was proportional. The result of analysis of the relationship between moisture content and fatty acid was 0.4299, it means that water content had a minor effect on the increase of free fatty acid. To maintain the quality of CPO, the company should be optimizing the supervision of CPO and checked the feasibility of storage tank periodically

Keywords: free fatty acids, CPO, water content, storage

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