Karakterisasi Kadar Kalsium Oksida (CaO) Cangkang Susuh Kura (*Sulcospira testudinaria*) Menggunakan Metode *X-Ray Fluorescence* dengan Variasi Suhu Kalsinasi

Abstrak

Cangkang susuh kura (*Sulcospira testudinaria*) yang berasal dari Desa Tajok Kayong Kecamatan Nanga Tayap Kabupaten Ketapang Kalimantan Barat sebagian besar cangkangnya menjadi limbah. Cangkang gastropoda, seperti susuh kura, diketahui mengandung CaO yang dapat digunakan sebagai pereduksi kadar keasaman. Kadar CaO yang dihasilkan dari bahan organik dapat dipengaruhi oleh suhu kalsinasi. Penelitian untuk mengetahui kadar kemurnian CaO yang terkandung di dalam cangkang susuh kura serta mengetahui pengaruh suhu kalsinasi terhadap kadar kemurnian CaO. Penelitian ini menggunakan dua perlakuan yaitu sampel yang dikalsinasi dan yang tidak dikalsinasi. Variasi suhu kalsinasi yang digunakan adalah 400℃, 500℃, 600℃, 700℃, 800℃, dan 900℃ selama masing-masing 1 jam. Sampel kemudian dikarakterisasi menggunakan metode *X-Ray Fluorescence*. Kadar CaO cangkang susuh kura yang tidak dikalsinasi diperoleh sebesar 97,84%. Kadar CaO tidak mengalami penambahan pada suhu 400ºC–700ºC. Akan tetapi, di suhu 800ºC dan 900ºC terjadi kenaikan kadar CaO masing-masing menjadi 97,92% dan 98,60%. Dengan demikian, suhu kalsinasi tinggi di atas 800℃ berpengaruh terhadap peningkatan kadar kemurnian CaO pada cangkang susuh kura.

Kata kunci: cangkang susuh kura, kalsinasi, kalsium oksida, XRF.

Characterization of Calcium Oxide (Cao) Amounts of Susuh Kura Shell (Sulcospira Testudinaria) Using X-Ray Fluorescence Method with Variation of Calcination Temperature

Abstract

The shell of the susuh kura shell (Sulcospira Testudinaria) originating from Tajok Kayong Village, Nanga Tayap District, Ketapang Regency, West Kalimantan is usually made into handicrafts, while the rest becomes waste. The shells of gastropods, such as susuh kura, are known to contain CaO which can be used as a reducing agent for acidity. The level of CaO produced from organic matter can be affected by the calcination temperature. This study aims to determine the amounts of CaO contained in the shell of the susuh kura and to determine the effect of calcination temperature on purity CaO levels. This study used two treatments, namely calcined and non-calcined samples. Calcination temperature variations used are 400℃, 500℃, 600℃, 700℃, 800℃, and 900℃ for 1 hour. The samples were then characterized using the X-Ray Fluorescence method. The CaO content of the uncalcined susuh kura shell was 97.84%. CaO content did not increase at a relatively low temperature of 400ºC–700ºC. However, at temperatures of 800ºC and 900ºC there was an increase in CaO levels to 97.92% and 98.60%, respectively. Thus, high calcination temperatures above 800℃ affect the increase in purity CaO levels in susuh kura shells.

Keywords: *susuh kura shell, calcination, calcium oxide, XRF.*