



Intisari

FORTIFIKASI NANOKALSIUM DARI TEPUNG TULANG LELE PADA CAMILAN *STICK* DAUN KELOR

Limbah tulang lele dapat dimanfaatkan sebagai sumber kalsium untuk membantu memenuhi asupan kalsium harian masyarakat dengan cara fortifikasi. Penelitian bertujuan untuk mengetahui kandungan gizi, mutu sensoris dan kontribusi camilan *stick* daun kelor yang difortifikasi nanokalsium tepung tulang lele terhadap angka kecukupan gizi kalsium. Rancangan penelitian menggunakan Rancangan Acak Lengkap (RAL) satu faktor (lima perlakuan dan tiga kali ulangan). Perlakuan berupa penambahan nanokalsium tepung tulang lele sebesar 0%, 0,5%, 1%, 1,5% dan 2% pada *stick* daun kelor. Parameter yang diuji yaitu pengujian fisik (rendemen dan ukuran partikel); pengujian kimia (kadar air, abu, protein, lemak, karbohidrat, kalsium dan fosfor); dan pengujian sensoris (uji hedonik aroma, rasa, tekstur dan warna). Hasil penelitian nanokalsium tepung tulang lele memiliki rendemen 17,84%; ukuran partikel 141,57 nm; kadar kalsium 39,54%; dan kadar fosfor 13,04%. Fortifikasi nanokalsium tepung tulang lele tidak berpengaruh nyata terhadap kadar air dengan nilai 1,20-1,89% dan berpengaruh nyata terhadap kadar abu dengan nilai 1,60-3,68%; kadar lemak 26,53-32,09%; kadar protein 5,23-6,83%; kadar karbohidrat 56,20-64,75%; kadar kalsium 140-820 mg/100 g; dan kadar fosfor 100-300 mg/100 g pada *stick* daun kelor. Sifat sensoris *stick* daun kelor tidak dipengaruhi oleh fortifikasi nanokalsium tepung tulang lele. Kontribusi terhadap AKG kalsium sebesar 5,09% hingga 29,82% pada takaran saji 40g.

Kata kunci: fortifikasi, kalsium, konsentrasi, nanokalsium tepung tulang lele, *stick* daun kelor



Abstract

FORTIFICATION OF NANOCALCIUM FROM CATFISH BONE MEAL ON MORINGA LEAF STICK SNACK

Catfish bone waste can be utilized as a source of calcium to help meet the daily calcium intake of the community through fortification. This study aimed to determine the nutritional content, sensory quality and contribution of moringa leaf stick snack fortified with nanocalcium from catfish bone flour to the calcium nutritional adequacy ratio. The research design used a Completely Randomized Design (CRD) with one factor (five treatments and three replications). The treatments consisted of adding nanocalcium catfish bone flour at levels of 0%, 0.5%, 1%, 1.5% and 2% to the moringa leaf stick. The parameters tested included physical tests (yield and particle size); chemical tests (moisture, ash, protein, fat, carbohydrate, calcium, and phosphorus content); and sensory tests (hedonic tests for aroma, taste, texture, and color). The nanocalcium catfish bone flour had a yield of 17.84%; particle size of 141.57 nm; calcium content of 39.54%; and phosphorus content of 13.04%. Fortification of nanocalcium from catfish bone flour was not significantly different to moisture content which values 1.20-1.89% and was significantly different to ash content which values 1.60-3.68%; fat content of 26.53-32.09%; protein content of 5.23-6.83%; carbohydrate content of 56.20-64.75%; calcium content of 140-820 mg/100 g; and phosphorus content of 100-300 mg/100 g on moringa leaf stick. The sensory properties of the moringa leaf stick were not affected by the fortification with nanocalcium from catfish bone flour. The contribution to the Recommended Dietary Allowance (RDA) for calcium ranged from 5.09% to 29.82% per 40g serving.

Keywords: fortification, calcium, concentration, moringa leaf stick, nanocalcium of catfish bone flour