

Karakteristik Fisik, Sensoris, dan Kimia Mi Kering Tepung Talas
(*Xanthosoma sagittifolium*) var. Merapi dengan Variasi Konsentrasi Carboxy
Methyl Cellulose

INTISARI

Oleh:

HEMA MALINI
20/460660/TP/12870

Kawasan lereng Gunung Merapi, tepatnya Dusun Batur, Cangkringan memiliki lingkungan tanah yang subur sehingga cocok untuk pertanian, salah satunya tanaman talas Merapi (*Xanthosoma sagittifolium*). Meskipun produktivitas talas Merapi cukup tinggi, namun masyarakat masih belum mampu mengolah umbi tersebut dengan baik. Salah satu potensi produk yang dapat dihasilkan yaitu berupa mi kering tepung talas. Sebagai mi bebas gluten, mi kering tepung talas perlu ditambahkan hidrokoloid yang berfungsi untuk memperbaiki tekstur. Hidrokoloid yang sering ditemukan di masyarakat yaitu *Carboxy Methyl Cellulose* (CMC). Penelitian ini bertujuan untuk mengetahui karakteristik fisik, sensoris, dan kimia mi kering tepung talas dengan variasi konsentrasi CMC.

Mi kering tepung talas pada penelitian ini terbuat dari pencampuran tepung talas, tapioka, maizena, pewarna, garam, CMC, dan air. Adonan kemudian dilakukan pengulenan dan pencetakan dilanjutkan pengukusan hingga pengeringan. Terdapat 4 taraf perlakuan terhadap variasi konsentrasi CMC yang ditambahkan yaitu K (CMC 0%); P1 (CMC 1%); P2 (CMC 1,5%) dan P3 (CMC 2%). Sampel mi yang dihasilkan dilakukan analisis terhadap karakteristik fisik dan sensoris. Formulasi mi kering terbaik ditentukan dengan metode indeks efektivitas De Garmo dan dilanjutkan dengan melakukan analisis kimia (kadar air, kadar abu, protein, lemak, dan karbohidrat).

Hasil penelitian menunjukkan bahwa penambahan konsentrasi CMC pada mi kering tepung talas dapat meningkatkan karakteristik fisik mi kering meliputi kekerasan, kekenyalan, kekompakan, elongasi, dan daya rehidrasi. Selain itu, penambahan CMC juga berpengaruh signifikan terhadap karakteristik sensoris seperti kekerasan, kekenyalan, elongasi, tekstur keseluruhan, dan *overall*. Sebaliknya, penambahan konsentrasi CMC pada mi kering tepung talas dapat menurunkan karakteristik fisik berupa kelengketan dan *cooking loss*, serta tidak berpengaruh signifikan terhadap atribut sensoris warna, aroma, rasa, dan *aftertaste*. Hasil analisis dengan metode indeks efektivitas menunjukkan bahwa sampel mi kering tepung talas dengan penambahan CMC sebesar 1,5% memiliki skor akumulasi tertinggi. Mi kering talas dengan penambahan CMC sebesar 1,5% mengandung kadar air 10,54%, kadar abu 2,94%, kadar protein 2,99%, kadar lemak 0,26%, dan kadar karbohidrat 83,26% dengan kadar air dan kadar abu telah sesuai dengan standar SNI.

Kata kunci: mi kering, talas merapi, tepung talas, *carboxy methyl cellulose*, CMC

Physical, Sensory, and Chemical Characteristics of Cocoyam Flour

(*Xanthosoma sagittifolium*) var. Merapi Dried Noodles with Variation of Carboxy Methyl Cellulose Concentration

ABSTRACT

Written by:

HEMA MALINI
20/460660/TP/12870

The slopes of Mount Merapi, Batur village, Cangkringan has a fertile soil environment that is suitable for agriculture, one of which is the Merapi cocoyam plant (*Xanthosoma sagittifolium*). Although the productivity of Merapi cocoyam is quite high, the community is still unable to process the tubers properly. One of the potential products that can be produced is cocoyam flour dry noodles. As gluten-free noodles, cocoyam flour dry noodles need to be added with hydrocolloids that function to improve texture. A familiar hydrocolloids is Carboxy Methyl Cellulose (CMC). This study aims to determine the physical, sensory, and chemical characteristics of cocoyam flour dry noodles with variations in CMC concentration.

The cocoyam flour dry noodles in this study were made from mixing cocoyam flour, tapioca, cornstarch, coloring, salt, CMC, and water. The dough is then kneaded and molded, followed by steaming until drying. There were 4 levels of treatment for variations in the concentration of CMC added, namely K (CMC 0%); P1 (CMC 1%); P2 (CMC 1,5%) and P3 (CMC 2%). The resulting noodle samples were analyzed for physical and sensory characteristics. The best dry noodle formulation was determined by the effectiveness index method De Garmo and continued by conducting chemical analysis (moisture content, ash content, protein, fat, and carbohydrate).

The results showed that the addition of CMC concentration to cocoyam flour dry noodles can improve the physical characteristics of dry noodles including hardness, elasticity, cohesiveness, elongation, and rehydration rate. In addition, the addition of CMC also had a significant effect on sensory characteristics such as hardness, chewiness, elongation, overall texture, and overall. In contrast, the addition of CMC concentration to cocoyam flour dry noodles can reduce physical characteristics such as adhesiveness and cooking loss, and has no significant effect on the sensory attributes of color, aroma, taste, and aftertaste. The results of the analysis using the effectiveness index method de Garmo showed that the cocoyam flour dry noodle sample with CMC addition of 1,5% had the highest accumulation score. Cocoyam noodles with CMC addition of 1,5% contained 10,54% moisture content, 2,94% ash content, 2,99% protein content, 0,26% fat content, and 83,26% carbohydrate content with moisture content and ash content in accordance with SNI standards.

Keywords: dried noodles, Merapi cocoyam, cocoyam flour, carboxy methyl cellulose, CMC