

**Pengaruh Penambahan Pektin Kulit Kakao (*Theobroma cacao* L.)
Terhadap Karakteristik Fisik, Mekanik, Kimia dan Organoleptik
Edible Film Berbahan Dasar Tepung Tapioka**

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ABSTRAK

Penelitian ini bertujuan untuk mengetahui penambahan pektin kulit kakao terhadap karakteristik fisik, mekanik, kimia dan organoleptik *edible film* berbahan dasar tepung tapioka. Penelitian ini menggunakan Rancangan Acak Lengkap (RAL) terdiri dari 5 perlakuan dan 3 kali ulangan. Data dianalisa secara statistik dengan menggunakan ANOVA dan dilanjutkan dengan uji *Duncan's New Multiple Range Test* (DNMRT) pada taraf 5%. Perlakuan pada penelitian ini adalah penambahan pektin kulit kakao sebesar A(0%) ; B(0,1%); C(0,2%); D(0,3%) dan E(0,4%) untuk produk *edible Film*. Pengamatan pada produk *edible film* yang dihasilkan adalah uji ketebalan, uji laju transmisi uap air, uji tensile strength, uji elongasi, uji pH, uji kadar air dan uji organoleptik *edible film* meliputi warna, aroma dan tekstur. Hasil penelitian menunjukkan bahwa perbedaan penambahan pektin kulit kakao pada *edible film* berpengaruh nyata terhadap warna dan tesktur, sedangkan ketebalan, laju transmisi uap air, tensile strength, elongasi, pH, kadar air dan aroma tidak berpengaruh nyata terhadap *edible film* berbahan dasar tepung tapioka. Perlakuan terbaik pada penambahan pektin kulit kakao terhadap pembuatan *edible film* dari tepung tapioka yaitu perlakuan B (Tepung tapioka + pektin kulit kakao 0,1%) meliputi ketebalan sebesar 0,014 mm; laju transmisi uap air sebesar 0,56 g.mm/m².jam; *tensile strength* sebesar 2,797 Mpa; dan *elongasi* sebesar 16,03 %; pH sebesar 7,01; kadar air sebesar 0,284% dan uji organoleptik warna 4,00; aroma 3,73; dan tekstur 4,06.

Kata Kunci : Pektin Kulit Kakao, Tepung Tapioka, *edible film*, Karakteristik

***The Effect of Addition of Cocoa's Peel Pectin (*Theobroma cacao L.*)
on Physical, Mechanical, Chemical and Organoleptic
Characteristics of Edible Films Made from Tapioca Flour***

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ABSTRACT

This study aims to determine the effect of cocoa's layer pectin addition on physical, mechanical, chemical and organoleptic characteristics of edible film made from tapioca flour. This study used Complete Randomized Design (RAL) consist of 5 treatments and 3 replications. Data were analyzed statistically using ANOVA and continued with Duncan's New Multiple Range Test (DNMRT) at 5% . The treatment of this study was the addition of cocoa's layer pectin as much as A (0%); B (0.1%); C (0.2%); D (0.3%) and E (0.4%) for Edible Film Product. The observations on the edible film's product are focused on thickness test, water vapor transmission rate test, tensile strength test, elongation test, pH test, water content test. Water activity test and organoleptic edible film test include color, aroma and texture. The results of the study showed that the different amount of cocoa's layer pectin addition on the edible film had significant effect on the color and texture, whereas the thickness, the vapor transmission rate, tensile strength, elongation, pH, moisture content and aroma had no significant effect on edible film made from tapioca flour. The best treatment on the cocoa's layer pectin addition to the making of edible film from tapioca flour is Treatment B (Tapioca flour + Cocoa peel pectin 1%) embodied the thickness of 0.014 mm; Steam transmission rate of 0,56 g.mm/m².jam; Tensile strength of 2,797 Mpa; And elongation of 16.03%; PH of 7.01; Water content of 0.284% and color organoleptic test 4,00; Aroma 3.73; And texture 4.06.

Keywords: Cocoa Peel Pectin, Tapioca Flour, Edible film, Characteristics