

Pengaruh Penambahan Pati Bengkuang (*Pachyrhizus erosus*) terhadap Karakteristik *Edible Film* Berbahan Dasar Tepung Tapioka

Debby Patriani, Novizar Nazir, dan Ismed

ABSTRAK

Penelitian ini bertujuan untuk mengetahui efek penambahan pati bengkuang terhadap karakteristik dan perlakuan terbaik dari edible film berbahan dasar tepung tapioka. Penelitian ini dilaksanakan di Laboratorium Teknologi Pertanian, Universitas Andalas, Padang pada bulan Oktober 2015 sampai bulan Januari 2016. Penelitian ini menggunakan Rancangan Acak Lengkap (RAL) dengan 5 perlakuan dan 3 kali ulangan. Analisis data menggunakan *Analysis of Variant* (ANOVA), hasil yang berbeda nyata dilanjutkan dengan Uji *Duncan's Multiple Range Test* (DNMRT) pada taraf 5%. Penelitian ini menggunakan rasio tepung tapioka dan pati bengkuang yaitu A (4% : 1%), B (3% : 1%), C (2% : 2%), D (1% : 3%) dan E (0% : 4%). Hasil penelitian menunjukkan bahwa penambahan pati bengkuang pada *edible film* berbahan dasar tepung tapioka berbeda nyata pada *tensile strength*, elongasi dan ketahanan air dan tidak berbeda nyata pada kadar air, pH, ketebalan dan laju transmisi uap air. Karakteristik edible film yang terbaik adalah perlakuan B (3% : 1%) dengan nilai kadar air 18,25%; pH 6,93; ketebalan 0,14 mm; laju transmisi uap air 7,96 g.mm/m².jam; kuat tarik 20,54 MPa; elongasi 0,13% dan ketahanan air 67,91% dan karakteristik mutu warna 3,9; aroma 4,1; rasa 4,0 dan tekstur 3,9.

Kata kunci – edible film, tepung tapioka, pati bengkuang



Effect of The Addition of Yam Bean (*Pachyrhizus erosus*) Starch on The Characteristics of Tapioca Flour Based Edible Film

Debby Patriani, Novizar Nazir, and Ismed

ABSTRACT

This research aimed to find out the effect of the addition of yam bean starch on the characteristics and the best treatment of tapioca flour based edible film . This research was carried out at laboratory of Agricultural Technology, Andalas University, Padang on November 2015 until February 2016. The research was used Completely Randomized Design which consist of 5 treatments and 3 repetitions. The analysis of data used Analysis of Variant (ANOVA), the significance result continued with Duncan's New Multiple Range (DNMRT) at significance level of 5% . This research used the ratio variation of tapioca flour added with yam bean starch at A (4% : 0%), B (3% : 1%), C (2% : 2%), D (1% : 3%), and E (0% : 4%). The result showed that the addition of yam bean starch on tapioca flour based edible film was significantly affect on tensile strength, elongation, and water uptake and not significantly affect on analysis of water, pH, thickness, and water vapor transmission rate. The best characteristics of edible film is B (3% : 1%), they are 18,25% of moisture content, 6,93 of pH, 0,14 mm of thickness, 7,96 g.mm/m2.hour of Water Vapour Transmission Rate, 20,54 Mpa of tensile strength, 0,13% of elongation and 67,91% of water uptake and sensory qualities characteristic 3.9 of color, 4.1 of aroma, 4 of taste, and 3,9 of texture.

Keywords – edible film, tapioca flour, yam bean starch

