ABSTRACT

EFFECT OF CARRAGEENAN ADDITION ON THE PHYSICAL AND SENSORY CHARACTERISTICS OF WET NOODLES WITH SOY FLOUR (*Glycine max (L)* Merrill) SUBSTITUTION

By

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Food diversification using soy flour in made wet noodles has been carried out in Indonesia. However, the absence of gluten in soybeans can reduce the physical characteristics of the resulting wet noodles. Natural additives in the form of carrageenan are known to form thermoreversible elastic gels. This study aims to determine the effect of adding carrageenan on the characteristics of wet noodles substituted with soy flour and to determine the addition of carrageenan with the characteristics of the best wet noodles substituted with soy flour according to SNI 2987-2015. The study used a Completely Randomized Block Design (RAKL) with one factor with four replications. The factors used were carrageenan and glucomannan formulations with 6 treatment levels, namely P1 (0%), P2 (4%), P3 (8%), P4 (12%), P5 (16%), P6 (20%). Data were analyzed using the Barlett and Tukey test, followed by the ANOVA test and the honest significant difference (BNJ) test at the 5% level. The results showed that the addition of carrageenan affected the physical and sensory properties of wet noodles substituted with soy flour. The best wet noodle treatment was treatment P4 (12% carrageenan) with a water content of 70.08%, cooking loss of 1.53%, elongation of 17.50%, texture score (between chewy and slightly chewy), colour score (between light brown and light brown), and protein content of 23.1%.

Keywords: carrageenan, soy flour, wet noodles

ABSTRAK

PENGARUH PENAMBAHAN KARAGENAN TERHADAP KARAKTERISTIK FISIK DAN SENSORI MI BASAH SUBTITUSI TEPUNG KEDELAI (*Glycine max (L)* Merill)

Oleh

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Diversifikasi pangan menggunakan tepung kedelai dalam pembuatan mi basah telah dilakukan di Indonesia. Akan tetapi, ketiadaan gluten pada kedelai dapat menurunkan karakter fisik mi basah yang dihasilkan. Bahan tambahan alami berupa karagenan diketahui dapat membentuk gel elastis *termoreversibel*. Penelitian ini bertujuan untuk mengetahui pengaruh penambahan karagenan terhadap karakteristik mi basah subtitusi tepung kedelai serta mengetahui penambahan karagenan dengan karakteristik mi basah subtitusi tepung kedelai terbaik sesuai SNI 2987-2015. Penelitian menggunakan Rancangan Acak Kelompok Lengkap (RAKL) satu faktor dengan empat kali ulangan. Data dianalisis menggunakan uji lanjut Barlett dan Tukey, dilanjutkan dengan uji ANOVA dan uji BNJ (Beda Nyata Jujur) pada taraf 5%. Faktor yang digunakan yaitu formulasi karagenan dan glukomanan dengan 6 taraf perlakuan yaitu P1 (0%), P2 (4%), P3 (8%), P4 (12%), P5 (16%), P6 (20%). Hasil penelitian menunjukkan bahwa penambahan karagenan berpengaruh terhadap sifat fisik dan sensori mi basah substitusi tepung kedelai. Mi basah perlakuan terbaik adalah perlakuan P4 (12% karagenan) dengan nilai kadar air 70,08%, *cooking loss* 1,53%, elongasi 17,50%, skor tekstur (antara kenyal dan agak kenyal), skor warna (antara coklat pudar dan coklat muda), dan kadar protein 23,1%.

Kata kunci: karagenan, mi basah, tepung kedelai