PENGARUH SUBSTITUSI TEPUNG SUKUN DAN *CARBOXYMETHYL CELLULOSE* TERHADAP SIFAT FISIK, KIMIA, DAN TINGKAT KESUKAAN MI KERING

INTISARI

Mi kering adalah produk makanan kering yang dibuat dari tepung terigu dengan penambahan bahan tambahan makanan yang diizinkan serta berbentuk khas mi. Ketergantungan terhadap tepung terigu dapat diatasi dengan substitusi tepung terigu menggunakan tepung sukun, namun penggunaannya menyebabkan mi menjadi kurang elastis sehingga ditambahkan *Carboxymethyl Cellulosa* (CMC). Tujuan penelitian ini untuk mengetahui kombinasi perlakuan terbaik antara rasio tepung terigu dan tepung sukun dengan penambahan *Carboxymethyl Cellulosa* (CMC), sehingga menghasilkan karakteristik mi kering dengan mutu sesuai standar dan disukai konsumen.

Metode yang digunakan adalah penelitian eksperimen dengan Rancangan Acak Lengkap (RAL) dengan dua faktor. Faktor pertama adalah substitusi tepung sukun 10 %, 20 %, dan 30 %. Faktor kedua adalah penambahan konsentrasi CMC 0.25%, 0.50% dan 0.75%. Analisa yang dilakukan adalah analisa fisik: uji daya rehidrasi, *cooking loss*, rendemen, analisa kimia: kadar air, kadar abu, kadar protein, dan uji sensoris. Data yang diperoleh dilanjutkan dengan uji *Analysis of Variance* (ANOVA) taraf 5% dan jika terdapat beda nyata dilanjutkan dengan uji *Duncan Multiple Range* Test (DMRT) pada tingkat signifikansi 0,05.

Hasil penelitian menunjukkan bahwa substitusi tepung terigu dan tepung sukun serta penambahan *Carboxymethyl Cellulosa* (CMC) berpengaruh nyata terhadap peningkatan nilai daya rehidrasi, kadar air, kadar protein, dan tingkat kesukaan, tetapi tidak berpengaruh nyata pada penurunan nilai *cooking loss* dan kadar abu produk mi kering. Mi kering dengan substitusi tepung sukun 10% dan penambahan *Carboxymethyl Cellulosa* (CMC) 0,75% menghasilkan mi kering karakteristik fisik nilai daya rehidrasi sebesar 163,16%, *cooking loss* sebesar 6,67, dan rendemen sebesar 72,50%. Presentase mi kering yang dihasilkan memenuhi syarat mutu SNI No 8217-2015 kadar air, kadar abu, kadar protein berturut-turut sebesar 6,82% (bb), 3,13% (bb), dan 10,95% (bb) dan disukai panelis dengan nilai uji sensoris keseluruhan yaitu 4,24.

Kata Kunci: Mi kering, tepung sukun, CMC, daya rehidrasi, *cooking loss*.

THE EFFECT OF BREADFRUIT FLOUR AND CARBOXYMETHYL CELLULOSE SUBSTITUTIONS ON PHYSICAL, CHEMICAL PROPERTIES, AND PREFERENCE LEVEL OF DRIED NOODLES.

ABSTRACT

Dried noodles are dry food products made from wheat flour with the addition of permitted food additives and are unique in shape of noodles. Dependence on wheat flour can be overcome by substitution of wheat flour using breadfruit flour, but its use causes the noodles to become less elastic so Carboxymethyl Cellulose (CMC) is added. Purpose of this study was to determine the best treatment combination between the ratio of wheat flour and breadfruit flour with the addition of Carboxymethyl Cellulose (CMC), resulting in characteristics of dry noodles with quality according to standard and favored by consumers.

The method used was experimental research with completely randomized design (RAL) with two treatment factors. First factor is the substitution of breadfruit flour 10%, 20%, and 30%. Second factor was the addition of 0,25%, 0,50% and 0,75% CMC concentrations. The analysis carried out is physical analysis: rehydration test, cooking loss, yield, chemical analysis: water content, ash content, protein content, and sensory test. Data obtained was tested with Analysis of Variance (ANOVA) test at 5% level, it would proceed with the *Duncan Multiple Range* Test (DMRT) test at significance level of 0,05.

Results showed that substitution of wheat flour and breadfruit flour and addition of Carboxymethyl Cellulose (CMC) had a significant effect on increasing the value of rehydration power, water content, protein content, and level of preference, but had no significant effect on decreasing the value of cooking loss and ash content of dry noodle products. Dry noodles with 10% breadfruit flour substitution and the addition of 0,75% Carboxymethyl Cellulose (CMC) resulted in dry noodles with physical characteristics of rehydration value of 163.16%, *cooking loss* of 6,67%, and yield of 72,50%. The percentage of dry noodles produced meets quality requirements of SNI No 8217-2015 moisture content, ash content, protein content are sebesar 6,82% (wb), 3,13% (wb), and 10,95% (wb) and preferred by the panelists with an overall sensory test score of 4.2.

Keywords: Dried noodles, breadfruit flour, CMC, rehydration value, cooking loss