

PENGARUH SUBSTITUSI TEPUNG TAPIOKA DENGAN TEPUNG SUKUN (*Artocarpus communis*) TERHADAP KUALITAS FISIK BAKSO DAGING AYAM JAWA SUPER

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INTISARI

Bakso merupakan produk olahan yang sangat diminati masyarakat dan berpotensi di pasaran Indonesia. Tepung tapioka merupakan bahan yang biasa digunakan sebagai *filler* bakso, namun kandungan indeks glikemik tapioka tergolong tinggi sehingga perlu adanya pengganti, seperti tepung sukun. Penelitian ini bertujuan untuk mengetahui kualitas fisik bakso ayam joper dengan substitusi tepung tapioka menggunakan tepung sukun (*Artocarpus communis*). Tepung sukun dipilih karena mengandung amilopektin dan amilosa yang tidak berbeda jauh dari tapioka, tinggi protein dan serat, dan indeks glikemik yang lebih rendah dari tapioka. Perbandingan tepung tapioka dan tepung sukun yang digunakan yaitu P0 (100:0), P1 (75:25), P2 (50:50), P3 (25:75), dan P4 (0:100). Variabel uji yang diamati yaitu uji nilai pH, daya ikat air (DIA), warna, tekstur, dan *cooking yield*, serta mikrostruktur bakso daging ayam joper. Data kualitas fisik dianalisis menggunakan analisis variansi pola searah. Hasil analisis dengan perbedaan nyata dilanjutkan dengan *Duncan's New Multiple Range Test* (DMRT). Uji mikrostruktur bakso daging ayam joper menggunakan analisis deskriptif. Substitusi tepung tapioka dengan tepung sukun berpengaruh nyata ($P < 0,05$) pada daya ikat air, *firmness*, *hardness*, *springiness*, dan *cohesiveness*. Hasil analisis daya ikat air secara berurutan sebesar 57,18%; 60,99%; 65,84%; 70,28%; dan 72,87%. Hasil analisis *firmness* secara berurutan sebesar 0,80 kgf; 0,84 kgf; 0,91 kgf; 0,98 kgf; dan 1,08 kgf. Hasil analisis *hardness* secara berurutan sebesar 1672,95 g; 1530,33 g; 1323,4 g; 1220,24 g; dan 1058,07 g. Hasil analisis *springiness* secara berurutan sebesar 87,63%; 88,52%; 89,29%; 90,11%; dan 90,64%. Hasil analisis *cohesiveness* secara berurutan sebesar 0,80; 0,79; 0,79; 0,78; dan 0,77. Penelitian ini menunjukkan bahwa substitusi tepung tapioka dengan tepung sukun pada perlakuan P4 (0:100) terjadi peningkatan terhadap kualitas fisik pada parameter daya ikat air, *firmness*, dan *springiness*. Tepung sukun mampu mensubstitusi tepung tapioka sebanyak 50%, dihasilkan bakso dengan penampakan mikrostruktur yang rapat, kompak, dan seragam.

Kata Kunci: Bakso, Daging ayam jawa super, Tepung tapioka, Tepung sukun, Kualitas fisik, Mikrostruktur.

THE EFFECT OF SUBSTITUTION TAPIOCA FLOUR WITH BREADFRUIT FLOUR (*Artocarpus communis*) ON PHYSICAL QUALITY OF JAWA SUPER CHICKEN MEATBALLS

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ABSTRACT

Meatballs are a processed product that is very popular with the public and has potential in the Indonesian market. Tapioca flour is an ingredient commonly used as a filling for meatballs, however, the glycemic index of tapioca is relatively high so it is necessary to have substitute ingredients, such as breadfruit flour. This research aims to determine the physical quality of Joper chicken meatballs by substituting tapioca flour with breadfruit (*Artocarpus communis*) flour. Breadfruit flour was chosen because it contains amylopectin and amylose which were not much different from tapioca, is high in protein and fiber, and has a lower glycemic index than tapioca. The ratio of tapioca flour and breadfruit flour used is P0 (100:0), P1 (75:25), P2 (50:50), P3 (25:75), and P4 (0:100). The test variables observed were the pH value test, air holding capacity (DIA), color, texture, cooking results, and microstructure of joper chicken meatballs. Physical quality data was analyzed using Unidirectional Pattern analysis of variance. The results of the analysis with significant differences were followed by Duncan's New Multiple Range Test (DMRT). Test the microstructure of Joper chicken meatballs using descriptive analysis. Substitution of tapioca flour with breadfruit flour had a significant effect ($P < 0.05$) on air holding capacity, firmness, hardness, suppleness and compactness. The results of the water holding capacity analysis were 57.18%; 60.99%; 65.84%; 70.28%; and 72.87%. The results of sequential firmness analysis were 0.80 kgf; 0.84kgf; 0.91kgf; 0.98kgf; and 1.08 kgf. The results of sequential hardness analysis were 1672.95 g; 1530.33 g; 1323.4 g; 1220.24 g; and 1058.07 g. The springiness analysis results were sequentially 87.63%; 88.52%; 89.29%; 90.11%; and 90.64%. The results of the integration analysis sequentially were 0.80; 0.79; 0.79; 0.78; and 0.77. This research shows that the substitution of tapioca flour with breadfruit flour in treatment P4 (0:100) increased physical quality in the parameters of water holding capacity, firmness and springiness. Breadfruit flour can substitute up to 50% of tapioca flour, resulting in meatballs with a tight, compact, and similar microstructure appearance.

Keywords: Meatballs, Jawa super chicken meat, Tapioca flour, Breadfruit flour, Physical quality, Microstructure.