

PENGARUH PENAMBAHAN SUKROSA DAN WAKTU FERMENTASI DENGAN *STARTER YOGHURT POWDER* TERHADAP KUALITAS FISIKOKIMIA DAN SIFAT FUNGSIONAL PUTIH TELUR FERMENTASI

Faizal Reza Mahardika
18/428051/PT/07705

INTISARI

Penelitian ini bertujuan untuk mengetahui pengaruh penambahan sukrosa dan waktu fermentasi putih telur dengan *starter yoghurt powder* terhadap kualitas fisikokimia dan sifat fungsional putih telur fermentasi. Penelitian ini dilakukan dengan menambahkan sukrosa sebanyak 0% dan 0,6% (b/v) pada putih telur dan juga waktu fermentasi putih telur dengan *starter yoghurt powder* selama 0 jam, 6 jam, dan 12 jam. Parameter sifat fungsional yang diamati meliputi kapasitas buih, kepadatan buih, kestabilan buih, dan daya ikat air; parameter pengujian kualitas fisikokimia meliputi uji kualitas fisik seperti viskositas dan uji kualitas kimia meliputi pH dan kadar air. Analisis data hasil penelitian *one-way ANOVA*. Hasil yang signifikan selanjutnya dilakukan uji *Duncan multiple range test* (DMRT). Hasil penelitian menunjukkan bahwa penambahan sukrosa 0,6% (b/v) dan waktu fermentasi putih telur selama 6 jam dengan *starter yoghurt* mampu meningkatkan kestabilan buih putih telur secara signifikan ($P < 0,05$). Penambahan sukrosa 0,6% (b/v) pada putih telur mampu menurunkan kadar air secara signifikan ($P < 0,01$). Waktu fermentasi putih telur selama 12 jam dengan *starter yoghurt* mampu meningkatkan jumlah bakteri asam laktat, menurunkan viskositas, dan menurunkan daya ikat air secara signifikan ($P < 0,05$). Fermentasi putih telur dengan *starter yoghurt powder* mengalami penurunan kapasitas buih sangat signifikan ($P < 0,01$) setelah 12 jam fermentasi. Kesimpulan penelitian ini adalah penambahan sukrosa 0,6% tidak berpengaruh terhadap total mikrobial, viskositas, pH, kapasitas buih, kepadatan buih, dan daya ikat air namun dapat meningkatkan kestabilan buih setelah difermentasi selama 6 jam. Apabila waktu fermentasi diperpanjang sampai dengan 12 jam dapat menurunkan viskositas, kapasitas buih, dan daya ikat air putih telur.

Kata kunci: Putih telur, sukrosa, waktu fermentasi, *starter yoghurt*, sifat fungsional

THE EFFECT OF SUCROSE ADDITION AND FERMENTATION TIME WITH YOGHURT POWDER STARTER ON PHYSICOCHEMICAL QUALITY AND FUNCTIONAL PROPERTIES OF FERMENTED EGG WHITE

Faizal Reza Mahardika
18/428051/PT/07705

ABSTRACT

This study aims to determine the effect of the addition of sucrose and the fermentation time of egg whites with yoghurt powder starter on the physicochemical quality and functional properties of fermented egg whites. This research was conducted by adding 0% and 0.6% (w/v) sucrose to egg whites and also the fermentation time of egg whites with yogurt powder starter for 0 hours, 6 hours, and 12 hours. Parameters of functional properties observed included foam capacity, foam density, foam stability, and water holding capacity; Physicochemical quality testing parameters include physical quality tests such as viscosity and chemical quality tests including pH and water content. Analysis of data from one-way ANOVA research. Significant results were then carried out by the Duncan multiple range test (DMRT). The results showed that the addition of 0.6% (w/v) sucrose and 6 hours of egg white fermentation time with yoghurt starter significantly increased the stability of the egg white foam ($P < 0.05$). The addition of 0.6% (w/v) sucrose to egg white was able to significantly reduce the water content ($P < 0.01$). Egg white fermentation time for 12 hours with yogurt starter was able to increase the number of lactic acid bacteria, reduce viscosity, and significantly reduce water holding capacity ($P < 0.05$). Egg white fermentation with yoghurt powder starter experienced a significant decrease in foam capacity ($P < 0.01$) after 12 hours of fermentation. The conclusion of this study was that the addition of 0.6% sucrose had no effect on total microbial, viscosity, pH, foam capacity, foam density, and water holding capacity but could increase the stability of the foam after being fermented for 6 hours. If the fermentation time is extended to 12 hours it can reduce the viscosity, foam capacity, and water holding capacity of the egg whites.

Keyword: Egg white, sucrose, fermentation time, yoghurt starter, functional properties