

Potensi Kacang Sacha Inchi (*Plukenetia volubilis. L*) sebagai Bahan Baku Pembuatan Tempe Tinggi Asam Lemak Tak Jenuh Ganda

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ABSTRAK

Latar belakang : Indonesia saat ini mengalami kerawanan pangan terhadap bahan pangan kedelai. Disisi lain, budidaya kacang sachu inchi (*Plukenetia volubilis. L*) di Indonesia terus meningkat. Kacang ini diketahui mengandung protein dan asam lemak tak jenuh ganda yang tinggi sehingga berpotensi sebagai bahan baku pembuatan tempe.

Tujuan : Tujuan dari penelitian ini adalah mengetahui potensi kacang sachu inchi sebagai bahan baku pembuatan tempe ditinjau melalui pengaruh lama fermentasi terhadap karakteristik kimianya (proksimat dan asam lemak tak jenuh ganda).

Metode : Penelitian eksperimental dengan sampel tempe kacang sachu inchi yang difermentasi selama 0 jam (kontrol), 24 jam, 48 jam, dan 72 jam. Kadar air dan abu dianalisis melalui metode gravimetri, protein metode *Kjeldahl*, lemak metode Soxhlet, karbohidrat metode *by difference*, dan asam lemak metode *Gas Chromatography* (GC). Uji statistik dilakukan dengan menggunakan ANOVA dan uji lanjut Duncan untuk mengetahui perbedaan proksimat tempe dengan lama fermentasi, dan menggunakan *independent t tes* untuk mengetahui perbedaan kadar asam lemak dengan lama fermentasi.

Hasil : Terdapat perbedaan yang signifikan ($p \leq 0,05$) kadar air, kadar abu, protein, lemak jenuh, lemak tak jenuh tunggal, dan lemak tak jenuh ganda terhadap lama fermentasi, dan tidak terdapat perbedaan yang signifikan ($p \geq 0,05$) kadar lemak total dan karbohidrat terhadap lama fermentasi. Golongan asam lemak paling banyak ditemukan di tempe kacang sachu inchi adalah asam lemak tak jenuh ganda (32,99%).

Simpulan : Proses fermentasi pada tempe kacang sachu inchi dapat menurunkan kadar air dan lemak jenuh, serta meningkatkan kadar abu, protein, dan lemak tak jenuh tunggal. Kadar air, protein, dan lemak tempe kacang sachu inchi telah memenuhi standar SNI, serta kandungan asam lemak tempe kacang sachu inchi >45% merupakan asam lemak tak jenuh ganda sehingga kacang sachu inchi berpotensi sebagai bahan baku pembuatan tempe.

Kata Kunci : Tempe, Kacang Sachu Inchi, Lama Fermentasi, Proksimat, Asam Lemak

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Potential of Sacha Inchi (*Plukenetia volubilis*. L) as Raw Material for Making Tempeh with High Polyunsaturated Fatty Acids

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ABSTRAK

Background : Indonesia is currently experiencing food insecurity for soybean food. On the contrary, the cultivation of sacha inchi (*Plukenetia volubilis*. L) in Indonesia continues to increase. This bean is known to contain a high amount of protein and polyunsaturated fatty acids, so it has the potential as a raw material for making tempeh.

Objective : The aim of this study was to determine the potential of sacha inchi as a raw material for making tempeh in terms of the effect of fermentation time on its chemical characteristics (proximate and polyunsaturated fatty acids).

Methods : Experimental study with samples of sacha inchi tempeh which were fermented for 0 hours (control), 24 hours, 48 hours, and 72 hours. Water and ash content were analyzed by gravimetric method, Kjeldahl method for protein, Soxhlet fat method, by difference method for carbohydrate, and Gas Chromatography (GC) method for fatty acids. Statistical tests were carried out using ANOVA and Duncan's advanced test to determine differences in proximate and fermentation time, and using independent t tests to determine differences in fatty acid levels and fermentation time.

Result : There were significant differences ($p \leq 0.05$) in water content, ash content, protein, saturated fat, monounsaturated fat, and polyunsaturated fat in the fermentation time, and there were no significant differences ($p \geq 0.05$) total fat and carbohydrate content on fermentation time. The most abundant fatty acid group found in sacha inchi tempeh is polyunsaturated fatty acids (32.99%).

Conclusion : The fermentation process of sacha inchi tempeh can reduce water content and saturated fat, and increase ash content, protein, and monounsaturated fat. The water content, protein, and fat of sacha-inchi tempeh meet SNI standards, and the fatty acid content of sacha-inchi tempeh is >45%, which is a polyunsaturated fatty acid, so sacha-inchi bean has the potential to be used as raw material for making tempeh.

Keywords : Tempeh, Sacha Inchi, Fermentation, Proximate, Polyunsaturated Fatty Acids

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