

**KARAKTERISTIK KIMIA DAN SENSORIS TEMPE KACANG
KERANDANG (*Canavalia virosa*) DENGAN VARIASI LAMA
PERENDAMAN DAN FERMENTASI**

INTISARI

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Keberadaan hidrogen sianida (HCN) dan asam fitat dalam kacang kerandang (*Canavalia virosa*) membatasi pemanfaatannya sebagai alternatif kacang lokal pengganti kedelai impor. Berdasarkan rekomendasi perlakuan untuk menurunkan senyawa toksin HCN dan asam fitat, kacang kerandang berpotensi diolah menjadi produk tempe yang memanfaatkan bantuan termal, air, dan aktivitas mikroorganisme selama proses pengolahannya. Penelitian ini menganalisis kandungan HCN, asam fitat, serta karakteristik kimia dan sensoris dalam tempe kacang kerandang setelah dikenai perlakuan perendaman (24 jam dan 72 jam) serta fermentasi (48 jam dan 72 jam). Kombinasi perlakuan yang dianalisis, meliputi pembuatan tempe kerandang dengan perendaman 24 jam dan fermentasi 48 jam (KR R1F2), perendaman 24 jam dan fermentasi 72 jam (KR R1F3), perendaman 72 jam dan fermentasi 48 jam (KR R3F2), perendaman 72 jam dan fermentasi 72 jam (KR R3F3), serta tempe kedelai dengan perendaman 24 jam dan fermentasi 48 jam (DL R1F2) sebagai kontrol pembandingan.

Hasil penelitian menunjukkan kombinasi perlakuan berpengaruh signifikan terhadap kadar HCN, tetapi tidak signifikan terhadap kandungan asam fitat. Namun, kadarnya berhasil diturunkan hingga batas aman yang ditetapkan. Karakteristik kimia, meliputi kadar air, abu, lemak, protein, dan karbohidrat tidak terpengaruh secara signifikan oleh kombinasi perlakuan. Karakteristik sensoris dianalisis melalui metode *Rate All That Apply* (RATA) dan hedonik. Hasil pengujian menunjukkan bahwa tempe kerandang dibandingkan tempe kedelai memiliki karakteristik sensoris yang berbeda serta secara keseluruhan memiliki tingkat kesukaan yang lebih rendah. Studi ini menunjukkan bahwa kacang kerandang berpotensi sebagai alternatif bahan baku pengganti kedelai dalam pembuatan tempe.

Kata kunci: tempe kerandang, perendaman, fermentasi, HCN, asam fitat, proksimat, RATA, hedonik

CHEMICAL AND SENSORY CHARACTERISTICS OF TRIBAL BEAN TEMPEH (*Canavalia virosa*) WITH VARIATIONS IN SOAKING AND FERMENTATION TIMES

ABSTRACT

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The presence of hydrogen cyanide (HCN) and phytic acid in tribal beans (*Canavalia virosa*) limits their use as a local alternative to imported soybeans. Based on recommendations for reducing HCN and phytic acid toxins, tribal beans have the potential to be processed into tempeh products using thermal assistance, water, and microbial activity during processing. This study analyzed the HCN and phytic acid content, as well as the chemical and sensory characteristics of tribal bean tempeh after undergoing soaking (24 hours and 72 hours) and fermentation (48 hours and 72 hours) treatments. The combinations of treatments analyzed included the production of winged bean tempeh with 24 hours of soaking and 48 hours of fermentation (KR R1F2), 24 hours of soaking and 72 hours of fermentation (KR R1F3), 72 hours of soaking and 48 hours of fermentation (KR R3F2), soaking for 72 hours and fermentation for 72 hours (KR R3F3), and soybean tempeh with soaking for 24 hours and fermentation for 48 hours (DL R1F2) as a comparative control.

The results showed that the treatment combinations had a significant effect on HCN levels, but no significant effect on phytic acid content. However, the levels were successfully reduced to the established safety limit. Chemical characteristics, including moisture, ash, fat, protein, and carbohydrate content, were not significantly affected by the treatment combinations. Sensory characteristics were analyzed using the Rate All That Apply (RATA) and hedonic methods. The test results showed that tempeh made from kerandang beans had different sensory characteristics compared to soybean tempeh and, overall, received a lower likability rating. This study indicates that kerandang beans have the potential to serve as an alternative raw material to soybeans in tempeh production.

Keywords: tribal tempeh, soaking, fermentation, HCN, phytic acid, proximate, RATA, hedonic