CHANGES ON NON VOLATILE TASTE COMPOUNDS OF FRESH AND STEAMED *Leucaena leucocephala* SEEDS POWDER

ABSTRACT

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Leucaena leucocephala seeds are known to have a unique taste like a combination of savory, sweet, and slightly bitter. This study investigated the effect of steam blanching on the taste compounds of *L. leucocephala* seeds powder, along with its physical and chemical properties. Steam blanching for 5 minutes gave a positive effect on the appearance of *Leucaena leucocephala* powdered seeds, shown by increased brightness value from 62.42 to 63.26. But, it had a negative effect on the chemical properties by decreased crude protein content of steamed seeds powder for about 12%. Evaluation of the taste compounds by sugar components resulted that maltose and raffinose in the fresh seeds powder tended to be lower than in the steamed one, but the glucose was tended to be higher. The content of organic acids, minerals, and 5'-nucleotide compound (IMP) in the steamed *L. leucocephala* seeds powder tended to decrease, but free amino acids content in the steamed seeds powder were increased. Equivalent umami concentration (EUC) value from each fresh and steamed seeds powder delivered a number of 0.62 g MSG/100 g db and 0.60 g MSG/100 g db respectively. Among the taste compounds identified in powdered *L. leucocephala* seeds, organic acids (especially succinic acid & citric acid) were the most responsible to the taste formation of powdered *L. leucocephala* seeds by taste active value (TAV) evaluation. Then followed by minerals (P, Mg, K, Ca, Na), free amino acids (glutamic acid, serine, histidine, arginine, alanine, methionine), and sugar (glucose).

Keywords: *Leucaena leucocephala*, steam blanching, taste compounds, equivalent umami concentration, taste active value.

PERUBAHAN SENYAWA-SENYAWA RASA NON-VOLATIL PADA BUBUK BIJI PETAI CINA (*Leucaena leucocephala*) SEGAR DAN KUKUS

ABSTRAK

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Biji petai cina (*Leucaena leucocephala*) memiliki karakter rasa yang unik yakni gurih, manis, dan sedikit pahit. Studi ini mengkaji pengaruh perlakuan *steam blanching* terhadap komponen rasa pada bubuk biji petai cina, serta perubahan fisik dan kimiawi. *Steam blanching* (pengukukusan) selama 5 menit memberikan pengaruh positif terhadap peningkatan nilai kecerahan (L) dari 62.42 menjadi 63.26. Namun, secara kimiawi terdapat efek negatif terhadap penurunan nilai protein kasar sebanyak 12%. Berdasarkan evaluasi senyawa-senyawa rasa pada bubuk biji petai cina, diketahui bahwa nilai komponen gula maltose dan rafinosa bubuk biji petai cina segar cenderung lebih rendah dibandingkan pada bubuk biji petai cina kukus, sedangkan nilai glukosa cenderung meningkat. Asam-asam organik, mineral, dan komponen nukleotida *inosine-monophosphate* (IMP) mengalami kecenderungan penurunan pada bubuk biji petai cina kukus, sementara kandungan asam-asam amino bebas cenerung naik. Nilai konsentrasi ekivalen umami (KEU) bubuk biji petai cina segar dan kukus secara berurutan yaitu 0.62 g MSG/100 g db and 0.60 g MSG/100 g db. Diantara senyawa-senyawa rasa pada kedua sampel bubuk biji petai cina, asam organik (asam suksinat dan asam sitrat) merupakan komponen dominan berdasarkan nilai *taste active value* (TAV), kemudian komponen mineral (P, Mg, K, Ca, Na), asam-asam amino bebas (asam glutamat, serin, histidin, arginin, alanin, methionin), dan gula (glukosa).

Keywords: Petai cina, *Leucaena leucocephala*, *steam blanching*, senyawa rasa, konsentrasi ekivalen umami, *taste active value*.