

Oriental natural flavor: Liquid and spray—dried flavor of “Jeruk purut” (*Citrus hystrix* DC) leaves

C. Hanny Wijaya^a

^aDept. of Food Tech. & Human Nutr., Fac. Agric. Technology, Bogor Agricultural University (IPB), Bogor 16002, Indonesia

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Abstract

A processing method is needed in order to produce a *C. hystrix* leaves' flavor which is easy to use as well as easy to be stored and distributed. In the present study, the effect of leaves fermentation on aroma improving, extraction methods and the possibility of producing flavor powder by using spray-dried method have been investigated.

Prior fermentation on fresh leaves for 2, 4 and 6 hours at room temperature has not provided a better aroma to flavor extract. Simultaneous distillation-extraction “Likens-Nickerson” method provided the best aroma flavor extract. However, there was no aromatic difference among the five extracts, except the percolation extract which gave different aroma from fresh *C. hystrix* leaves. GC profile of the extracts indicated that *C. hystrix* leaves contained citronellal as the major compounds. The best powdered product was produced by encapsulated 0.1% water distilled oil/extract with 4% coating agent (gum arabic:dextrin=1:3) in alcohol. The powder flavor produced has 5.6% yield, moisture content of 1.5 %, ash content of 0.52%, VRS of 138.5% mek/g and water solubility of 99.9%. The addition of anticaking gave more “free-flowing” characteristic to the initial product, beside prolonging the shelf-life especially in high humidity condition. According to the prediction, the shelf-life of product with 2% SiO₂ packaged in aluminum foil would be 1302 days at RH 70 and 782 days at RH 85. Sensory evaluation results showed that until 6 weeks storage, no deviation was detected and the flavor was still acceptable. The obtained *C. hystrix* flavor ingredients are having good prospects to be further developed.