

PENGARUH KONSENTRASI MONOSODIUM GLUTAMAT DAN LAMA FERMENTASI TERHADAP SIFAT FISIK, KIMIA, DAN TINGKAT KESUKAAN *NATA DE COCO*

INTISARI

Nata de coco merupakan hasil proses fermentasi air kelapa menggunakan bakteri *Acetobacter xylinum* dengan menggunakan *Amonium sulfate* (ZA) sebagai sumber nitrogen. Penggunaan ZA yang bukan kategori *food grade* akan mempengaruhi kesehatan, tingkat keamanan dan penerimaan konsumen. Oleh karena itu, perlu dicari alternatif sumber nitrogen yang telah umum dikonsumsi masyarakat, yaitu *monosodium glutamate* (MSG) sebagai bumbu masak. Lama fermentasi pada pembuatan *nata de coco* mempengaruhi ketebalan dan rendemen nata. Penelitian ini bertujuan mengetahui pengaruh MSG sebagai sumber nitrogen dan lama fermentasi terhadap sifat fisik, kimia, dan sensoris *nata de coco* yang dihasilkan.

Penelitian ini dilakukan menggunakan rancangan acak lengkap secara faktorial yang terdiri dari dua faktor yaitu sumber nitrogen (MSG 1%, MSG 2%, MSG 3%, dan ZA 1%) dan lama fermentasi (10 hari, 12 hari, dan 14 hari). Pengamatan yang dilakukan meliputi rendemen, ketebalan, kadar air, kadar serat, dan uji organoleptik terhadap warna, kekenyalan, rasa, dan aroma *nata de coco*. Data hasil penelitian diolah menggunakan program SPSS *Statistics 22*. Data yang diperoleh kemudian dievaluasi dengan analisis sidik ragam (Anova) dan apabila ada beda nyata maka dilanjutkan dengan pengujian *Duncan Multiple Range Test* pada tingkat kepercayaan 95% ($\alpha = 0,05$).

Hasil penelitian menunjukkan bahwa *nata de coco* dapat dibuat dengan penambahan MSG 1 – 2% dengan lama fermentasi 12 – 14 hari. Penggunaan MSG dan lama fermentasi mempengaruhi rendemen, ketebalan, dan kadar air *nata de coco* yang dihasilkan, tetapi tidak mempengaruhi kadar serat pangannya. Penggunaan MSG sebesar 1% dengan lama fermentasi 12 dan 14 hari, MSG 2 dan 3% dengan lama fermentasi 12 hari dapat menghasilkan *nata de coco* yang disukai oleh panelis dan tidak berbeda nyata dengan penggunaan ZA 1% dengan lama fermentasi 12 hari. Penggunaan MSG 1% dengan lama fermentasi 12 hari menghasilkan rendemen, ketebalan, kadar air, dan kadar serat *nata de coco* berturut – turut sebesar 47,83%, 2,23 cm, 96,09%, dan 2,14%.

Kata kunci: *nata de coco*, *monosodium glutamat*, sumber nitrogen, lama fermentasi

***EFFECT OF MONOSODIUM GLUTAMATE CONCENTRATION AND
FERMENTATION TIME ON THE PHYSICAL AND CHEMICAL
PROPERTIES, AND PREFERENCE LEVEL OF NATA DE COCO***

ABSTRACT

Nata de coco is the result of the fermentation process of coconut water using *Acetobacter xylinum* bacteria using *Ammonium sulfate* (ZA) as a nitrogen source. The use of ZA which is not a food grade category will affect the health, safety level and consumer acceptance. Therefore, it is necessary to find an alternative source of nitrogen that is commonly used by the public, namely *Monosodium glutamate* (MSG) as a cooking spice. The length of fermentation in the manufacture of *nata de coco* affects the thickness and yield of the *nata*. This study aims to see the effect of MSG as a nitrogen source and fermentation time on the physical, chemical, and sensory properties produced.

This research was conducted using a factorial completely randomized design consisting of two factors, namely the source of nitrogen (MSG 1%, MSG 2%, MSG 3%, and ZA 1%) and fermentation time (10 days, 12 days, and 14 days). The observations made included the amount of yield, thickness, moisture content, fiber content, and organoleptic tests on the color, chewiness, taste and aroma of *nata de coco*. The research data were processed using the SPSS Statistics 22 program. The data obtained were then evaluated with analysis of variance (Anova) and if there was a significant difference, it was continued with the Duncan Multiple Range Test at the 95% confidence level ($\alpha = 0.05$).

The results showed that *nata de coco* can be made with the addition of 1 - 2% MSG with a fermentation time of 12-14 days. The use of MSG and fermentation time affected the yield, thickness, and moisture content of the *nata de coco* produced, but did not affect the content of dietary fiber. The use of 1% MSG with a fermentation time of 12 and 14 days, 2 and 3% MSG with a fermentation time of 12 days can produce *nata de coco* which is favored by panelists and is not significantly different from using 1% ZA with fermentation time of 12 days. The use of 1% MSG with a fermentation time of 12 days resulted in yield, thickness, air content, and fiber content of *nata de coco* is 47.83%, 2.23 cm, 96.09%, and 2.14%.

Keywords: *nata de coco*, monosodium glutamate, nitrogen source, fermentation time