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THE INFLUENCE OF THE CONCENTRATION ZA (ZWAVELZURE AMMONIAC) TO THE QUALITY OF NATA DE COCO

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Abstract: Results of the analysis of the inferensial with indicators of weight and thickness measurement results obtained the highest concentration is in the ZA 9 gr/1000 ml (X2) with the highest average score on the weight is 51,6 gr and to the thickness of the highest average value is 1,37 cm. This shows that the quality of *nata de coco* is the best is to use concentration ZA 9 gr/1000 ml (X2). Data research results calculated using the test-F, retrieved the value F = 0,46 count for both weight as well as its thickness, and F_{table} 5% = 5,14. H_0 is accepted because the treatment did not significantly influence the response variable against.

Keywords: quality, nata de coco, ZA

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Introduction

To in the Moluccas, water coconut not many make or processed into a product, usually just discarded, both in rural areas and urban areas, one example in the city Ambon namely the market place processing coconut, usually we often see water *coconut* dumped just, so will increasingly causing pollution

Considering the potential of the coconut from which water so vast is the sum of, which every year have tended to an increase in, then making de nata coco who uses medium coconut water can be cured as home industry[1,2]. So far of people use the ingredients of which somewhat difficult to obtain and purchase expensive, for example ammonium sulphate. In fact the ammonium sulphate their role can be replaced, that is by using ZA (Zwavelzure Ammoniac) white ones and shaped a granular crystalline, as well as having nitrogen content very high used by *Acetobacter xylinum* to grow and ferment coconut water become de nata coco[3,4].

Fertilizer ZA harmless to men, because for the manufacture of coco de nata, usually used ammonium sulphate, being essentially ammonium the sulphate same with fertilizers ZA. Who as we know in the language of the Netherlands the meaning of ZA itself is ammonium sulphate, it just technically both different, namely the forms as well as its structure, it is with the price, fertilizer ZA relatively cheap compared with ammonium sulphate[3]. Both nitrogen has any very high which is very much needed by *Acetobacter xylinum* for sport metabolism that happened and nitrogen is to be in digest/degraded by bacteria and not contained in the nata because consumption is spent in bacteria with a record of the content in accordance[5,6]

Method

The type used in research is the correlation experiment use random laboratory design complete with 3 treatment and 3 times test. Variable independent (X) is concentration ZA, consisting of X1 (concentration 3 gr/1000 ml), X2 (concentration 9 gr/1000 ml), X3 (concentration 15 gr/1000 ml). Variable dependent (Y) is the quality of the nata de coco, namely weight and thickness. This study has been implemented and held for two weeks starting from date 7 august and 21 august 2015. This research located in the laboratory Science, Religious Institute State Islamic. An object in this research was the influence of concentration ZA on the quality of nata de coco .In this research used 3 treatment and 3 times remedial as a total unit observation 9 units[7].

Into 1000 ml water *coconut* dissolved 10 gr sugar, and ZA in accordance with concentration desired, for 10 minutes. Add acetic acid glacial 1,25 ml and left boiling for 10 minutes. Let medium cold in a state of a closed pot. After chilled medium cast in a bottle culture and given inokulum *Acetobacter xylinum* as much as two ml, bottle caps culture with aluminum foil and let for two weeks. To concentration ZA the other, the procedure same, just the amount of ZA used different. After the time fermentation last for 14 days, so nata de coco ready harvested. To measurement by weight nata de coco done the ohaus 8724 with capacity 311 gr. Besides it is pool the opinion of 10 respondents had of color (the level of whitish), and the level plasticity. The number of respondents as many as 10 people criteria is a person who often consume nata de coco. For the measurement of thickness nata de coco used bar

The data collection was done with weighting heavily nata de coco produced. Then undergone a organoleptic by respondents from the nata de coco. For the thickness of obtained through the method of measurement in parts %. Descriptive analysis, done to discuss the quality (test organoleptic) of the color of, and plasticity nata de coco by using chief (sheets of stuffing respondents)

Result and Discussion

Color (the level of whitish) nata de coco

From organoleptic test against the color (whitish) nata de coco of three concentration ZA a different 3 gr/1000 ml, 9 gr/1000 ml and 15 gr/1000 ml, according to the opinion of 10 respondents taken from a student who often consume nata de coco namely 6 respondents said it is white, 2 respondents judge enough white, and 2 respondents said it is less white

Plasticity nata de coco

Results from the test on the level of organoleptic plasticity de nata coco of three concentration ZA different in accordance with the opinions of 10 respondents who in extract from student who same in judging color (the level of whitish) de nata coco namely 9 people of respondents rating them quite springy and 1 respondents rating them less chewy

Weight nata de coco

From the measurement by weight nata de coco of three concentration ZA the concentration 3 gr/1000 ml (X1) , 9 gr/1000 ml (X2) and 15 gr/1000 ml (X3) served in table, while value average the measurement result of the weight of three concentration are presented in table below

Table 2. The average weight de nata coco resulting from third concentration

Treatment	Average Weight Nata de Coco
concentration 3 gr/1000 ml	48,7 gr
concentration 9 gr/1000 ml	51,6 gr
concentration 15 gr/1000 ml	37,7 gr

Virtue of the measurement result from each average weight nata de coco in table above, it is evident that result of measuring weight nata de coco the highest concentration obtained at treatment 9 gr/1000 ml (X2), with the average 51,6 gr. Through calculation F test to weight nata de coco concentration of the treatment ZA different, obtained value F_{count} (0,46) < F_{table}, then ho received which means there is no difference influence concentration of weight ZA nata de coco produced

Thickness nata de coco

From measurement thickness nata de coco of the concentration ZA the concentration 3 gr/1000 ml (X1), 9 gr/1000 ml (X2) and 15 gr/1000 ml (X3) served in table 2, while value average the measurement result of thickness of the concentration are presented in table below

Table 2. The average thicness nata de coco resulting from third concentration

Perlakuan	Average thicness nata de coco
concentration 3 gr/1000 ml	1,30 cm
concentration 9 gr/1000 ml	1,37 cm
concentration 15 gr/1000 ml	0,97 cm

Based on measurements of hasi against the value of the average thickness de nata coco in table above, it is seen that result of measuring thickness de nata coco the highest obtained at concentration 9 treatment gr/1000 ml (X2) with average value 1,37 cm .Source while analysis multiform against the value of the average thickness de nata coco concentration on third ZA are presented in the table below, and calculation served in the analysis F test. F test done for the thickness of de nata coco third treatment of concentration ZA different, obtained value f_{count} (0,46) < f_{table}, hence ho accepted which means there are no differences ZA influence concentration against thickness de nata coco produced

Fertilizer ZA containing nitrogen (20-21 %), sulphur (23-24 %). Because of the sulphur content and fertilizer ZA very useful for the growth of plants many need sulphur element[8]. In

making nata de coco need help microorganisms, in this matter is bacteria aerobic namely *Acetobacter xylinum* and bacteria had various criteria life to such as the acidity (pH) 3-4 and the availability of nitrogen enough, so that ZA that is a source of nitrogen for the continuity of metabolic process that happened and nitrogen is to be in digest/degraded by bacteria and not contained in the nata because is spent in consumption bacteria in accordance with a measure[9].

The results of the analysis descriptive qualitative in test organoleptic about color and plasticity nata de coco of the three concentration different: 3 gr/1000 ml (X1), 9 gr/1000 ml (X2) and 15 gr/1000 ml (X3), shows differences in as evidenced of opinion the 10 respondents, that the results show that not all of the three concentration ZA the same, in this case is who feel its color (the level of whitish) white, enough white, and less white and to level plasticity some judge enough springy and less springy

To yield descriptive analysis quantitative in weight and thickness nata de coco, where the value of averages for each concentration 3 gr/1000 ml (X1) to weight 48,7 gr, its thickness 1,30 cm; concentration 9 gr/1000 ml (X2) to weight 51,6 gr, its thickness 1,37 cm; and concentration 15 gr/1000 ml (X3) to weight of the 37,7 gr, its thickness 0,97cm, showed that the existence of the difference in value the average of its weight and its thickness, where to weight and thickness nata de coco greater referring to concentration 9 gr/1000 ml (X2). Research this proves that of the three concentration ZA used in addition nutrients used by bacteria nata namely *Acetobacter xylinum*, it turns out that concentration ZA 9 gr/1000 ml (X2) give products nata de coco the best, both in terms of color, plasticity and in terms of weight and its thickness

Conclusions

There is a difference in the influence of concentration ZA to color and plasticity products nata de coco, but there is no difference the influence of concentration of weight and thickness products nata de coco. Concentration ZA the best in this research was 9 gr/1000 ml.

Suggestions

Was recommended to maker nata de coco to give ZA in concentration 9 gr/1000 ml in the medium used. The influence of the provision of concentration ZA higher or lower in fermentation process water *coconut* on the quality of nata de coco will not produce products nata de coco quality, so that required concentration steady for growth nata de coco good and optimal.

The need for consideration instrument, material, and the hall where the fermentation nata de coco who are clean (free of contaminants).

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