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APPLICATION OF PINEAPPLE JUICE AS A SIGNATURE DRINK IN POLYTECHNIC OF BINTAN CAKRAWALA THROUGH ORGANOLEPTIC TEST

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Abstract Generally, fruits are processed into processed products such as jam, jelly, lunkhead, fruit juice, fruit tea drinks, syrup, canned fruit, dry or wet candied jam. In addition to fruit, currently vegetables can also be used in various forms and types of food because they also have high nutrients, especially vitamins and minerals. Pineapple (Ananas comosus) contains many nutrients including vitamin A, calcium, phosphorus, magnesium, iron, sodium, potassium, dextrose, sucrose, and the enzyme bromelain (bromelain) is one of the important and useful components in the pharmaceutical field and food. Bromelain enzymes can hydrolyze proteins (proteolysis) and relatively resistant to heat. Pineapple is generally consumed directly, but in order to remind the economic value and extend a shelf of life, processing is carried out. Fruit juice is a liquid that is taken, squeezed or removed from the fruit by pressing or pressing by other mechanisms. With this research, the results of processed pineapple juice are combined with other drinks according to the composition which used as a signature drink from Bintan Cakrawala Polytechnic. In this study, it was tested using an organoleptic test that assessed the physical quality properties such as color, aroma and flavor. From the results of this test, the average results were obtained, namely for flavor with a value of 6.87 for a dose of 75 ml of pineapple juice, for color with a value of 6.88 for a dose

of 50 ml of pineapple juice and finally for color with a value of 6.62 for a dose. pineapple juice as much as 75 ml.

Introduction

Pineapple (ananas comosus) contains many nutrients and nutrients, including vitamin A, calcium, phosphorus, magnesium, iron, sodium, potassium, dextrose, sucrose, and the enzyme bromelain (bromelain) is one of the important and useful components in the pharmaceutical and food fields (Ali, Hashim, Abd Aziz, & Lasekan, 2020). Bromelain enzymes can hydrolyze proteins (proteolysis) and are relatively heat resistant (Mahmud, Abdullah, & Yaacob, 2018). The main economically important part of the pineapple plant is the fruit. The taste of pineapple fruit is sweet to slightly sour, so it is liked by many people (Sun, Zhang, Soler, & Marie-Alphonsine, 2016).

The structure of the pineapple flesh is yellowish white, soft and tastes sweet and sour so it is suitable to be processed into drinks (González-Olmedo et al., 2005). Pineapple is a tropical fruit that is widely cultivated in Indonesia. Pineapple is generally consumed directly as a table fruit, but in order to remind the economic value and extend shelf life, processing is carried out. Fruit juice is a liquid that is taken, squeezed or removed from the fruit by pressing or pressing or by other mechanisms. According to Makfoeld (1990), what is meant by fruit juice is fruit juice that is subject to fermentation, obtained from the pressing of fruit (Komansilan, 2020). To get good juice, fruit juice needs to be separated from the insoluble parts by a filter (Bump, 1989). Fruit crushing is done with a blender and extraction is done by pressing manually with a filter cloth or with a press (Berardini, Knödler, Schieber, & Carle, 2005).

In addition, research in the processing of pineapple juice aims to add distinctive and economic value itself. This pineapple juice can also be used as a signature drink or unique/original drink from Bintan Cakrawala Polytechnic. With which Bintan Cakrawala Polytechnic is one of the private universities in the field of Tourism located in Bintan Regency, Riau Islands. With this research, it is the result of processed pineapple juice combined with other drinks with compositions that have been created by students of the Bintan Cakrawala Polytechnic.

From several previous research results, the researchers applied 3 studies that were used as a literature review of the research including:

First, Researcher (Berutu, 2019) Title: Effect of Comparison of Pineapple Juice with Carrot Juice During Storage on Fruit Tea Quality:. Explanation: The effect of

comparison and storage time of fruit juice with pineapple juice has a very significant effect (P<0.01) and not significant (P>0.05). The results of the research carried out obtained the best results from the S3L1 treatment, namely treatment with a ratio of 50% pineapple juice and 50% carrot juice and 0 days storage time based on parameters for total soluble solid, pH value, vitamin C content, total acid, total microbial, the hedonic value of taste.

Second, (Haliem, Nugerahani, & Rahayu, 2017) with the title Study of Pineapple Juice Proportion and Starter Concentration on Chemical and Oeganoleptic Properties of Pineapple Kefir. Explanation: Different proportions of pineapple juice have a significant effect on TPT, vitamin C content and alcohol content as well as the organoleptic properties of pineapple kefir which include preference for color, aroma, taste and sparkling effect. Different starter concentrations had a significant effect on TPT, vitamin C content and alcohol content as well as the organoleptic properties of pineapple kefir which included parameters of preference for aroma, taste and sparkling effect. The interaction of the two factors, namely the proportion of pineapple juice and concentration of starter had a significant effect on TPT, vitamin C content, alcohol content and organoleptic properties of color, aroma, taste and sparkling impression. The best treatment chosen was pineapple kefir with the use of pineapple juice without dilution and the addition of 1% starter (N0S1) with a total value based on the seeding test of 0.95.

Third, (Hassan, Othman, & Siriphanich, 2011) Title: Effect of Concentration of Pineapple Juice (Ananas Comosus (L.) Merr. cv. 'Smooth Cay-enne') and Low-fat Milk on Lactic Acid Levels and Organoleptic Properties of Yoghurt Peanut Milk (Arachis Hypogaea L.) Explanation: The results of this study explain that the addition of pineapple juice and low-fat milk has a significant effect on lactic acid levels and organoleptic properties of peanut milk. Yoghurt which had the combination treatment N10S5 showed the highest yield and could increase lactic acid levels from 1.08% to 1.98%. Furthermore, the combination of treatments N0S0, N15S9, N15S3, N10S3, N5S7 showed the highest organoleptic properties of peanut milk yogurt, with an average number for texture 4.3 (thick), color 3.65 (ivory), aroma 3,35 (lack of flavor), sour taste 4,2 (sour), flavor 3,1 (lack of flavor and preference 3 (less like).

Research Method

A. Types and Research Design

The data sources in the study are divided into two, namely primary data sources and secondary data sources

Primary data sources or primary data sources are human sources in the form of data from the words and actions of the interviewees. Primary data in this study

were obtained by using written notes derived from interviews with research subjects. The subjects of this research become informants who will provide various information needed during the research process

Secondary data or sources other than primary data are non-human sources in the form of written sources. Secondary data or written data in this study were obtained from documentation. Documentation is data collection through written heritage in the form of archives, books, agendas and others as evidence that shows events or activities related to this research**.**

B. Data Collection Techniques

The data collection used in this study are as follows:

1. Observation

Basically, observation is the main method for obtaining information, where the researcher sees behavior in a natural setting, sees dynamics, sees a picture of behavior based on the existing situation. Observation is listening to someone's behavior for some time without the need for manipulation or control, as well as recording meetings that allow or qualify for use in the interpretive level of analysis. The main purpose of observation according to James A. Black and Dean J. Champion (1992: 285-287) is to observe human behavior as an actual event, which allows us to view behavior as a process.

2. Interview Method

Is a verbal communication activity with the aim of obtaining information (James A. Black and Dean J. Champion, 1992: 305-306). The researcher uses a semi-structured interview technique, which is a combination of interview techniques with structured and unstructured interview guidelines

3. Documentation Method

According to (Arikunto, 2019) what is meant by the documentation method is to find data about things or variables in the form of notes, transcripts, books, meeting minutes, agendas and so on. So documentation is a data collection technique by learning to read and record what is implied and stated in documents, regulatory reports and other literature relevant to researchers, such as a list of the quantities of pandan, ginger and lemongrass harvests that will be needed in this study.

C. Determination of Materials and Manufacturing Process

The pineapple juice drink will later become the signature drink for the Bintan Cakrawala Polytechnic, the pineapple fruit was chosen because of the abundance of pineapple plants and plantations in the Bintan environment. The pineapple fruit used for the experiment was a ripe fruit so that more juice could be taken. Pineapple fruit is also used to give a natural sour taste to this experimental drink. The flow of making several samples of pineapple juice drinks through the same process but in different amounts of fruit juice. In Figure 1, you can see a flow chart for making pineapple juice drinks.

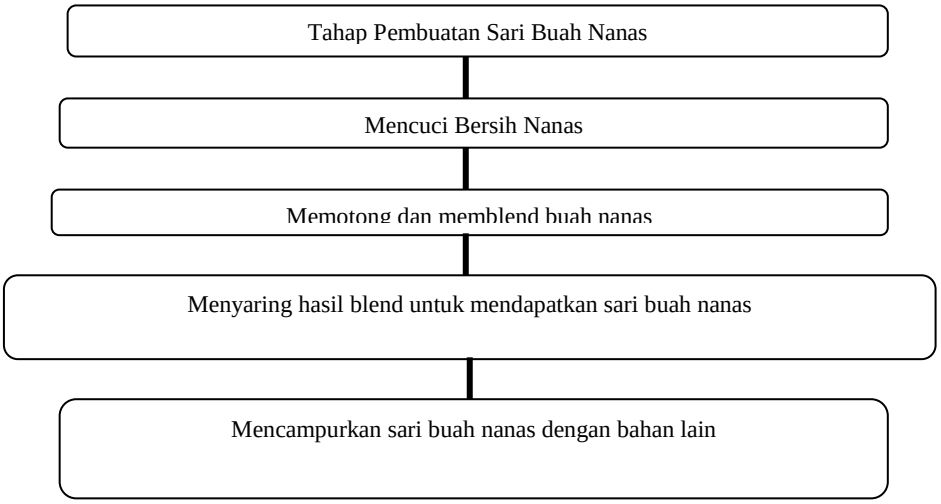

Figure 1. Production Process Flow

From the diagram, the process of compounding drinks with the same composition, there is only a difference in the dose of pineapple juice. Here is a recipe for 3 samples of pineapple juice drink:

Tabel 1. Komposisi Bahan

No	Name Ingredients	Composition		
		50ml	**75ml**	**85ml**
1	Pineapple Juice	50ml	75ml	85ml
2	Blue Curacao	10ml	10ml	10ml
3	Simple Syrup	15ml	15ml	15ml
4	Soda water	330ml	330ml	330ml
5	seeds of basil	1 teaspoon	1 teaspoon	1 teaspoon
6	Nata De Coco	4 seeds	4 seeds	4 seeds

Result and Discussion

A. Evaluation of Organoleptic Test

How to perform organoleptic tests can be grouped into several groups, namely different tests, preference tests/acceptance tests, scalar tests, description tests

a. Distinction Test

Discrimination testing is used to determine whether there are differences in sensory or organoleptic properties between two samples. Although it is possible to

present a number of samples, there are always two conflicting samples. This test is also used to assess the effect of several kinds of modification treatments or processes or materials in food processing of an industry or to find out if there are differences or similarities between two products of the same commodity. So to be effective the nature or criteria being tested must be clear and understood by the panelists. Reliability (reliability of this differentiation test depends on the recognition of the desired quality trait, the level of training of the panelists and the sensitivity of each panelist. This differentiation test includes:

1. Paired test (paired comparison or dual comparison)
2. Triangle test
3. Double comparison test (dual standart)
4. Multiple comparative test (multiple standart)
5. Test a single stimulus (single stimulus)
6. Multiple pairs test
7. Single test

b. Preference Test/Acceptance Test

Acceptance test involves a person's assessment of a nature or quality of a material that causes people to like it. In this test, the panelists expressed personal responses, namely impressions related to liking or responding to whether or not they were happy with the sensory properties or qualities being assessed. Acceptance test is more subjective than differentiation test. The purpose of this acceptance test is to determine whether a particular commodity or sensory trait is acceptable to the public. This test is not able to predict acceptance in marketing. This convincing test does not guarantee that the commodity by itself is easily marketable. Acceptance test includes a preference test or hedonic test and hedonic quality test. In the hedonic test, the panelists expressed their personal likes or dislikes, besides that they also expressed their level of preference. The level of preference is also known as the hedonic scale. The hedonic scale is transformed into a numerical scale with increasing numbers according to the level of preference. With this numerical data, statistical analysis can be done. Meanwhile, in the hedonic quality test, the panelists stated their personal impression of good or bad (hedonic quality impression). The impression of hedonic quality is more specific than the impression of liking or disliking and can be more general.

c. Scalar Test

In the scalar test, the panelists were asked to state the magnitude of the impression they got. This quantity can be expressed in the form of this quantity can be expressed in the form of a scalar quantity or in the form of a numerical scale. Scalar quantities are depicted in the form of a directed straight line with the division of the scale with the same distance and are depicted in a scalar band with a leading degradation (such as an example of color degradation from very white to black). This scalar test includes line scalar test, scoring test, pair comparison test, multiple comparison test, grading test (sorting or ranking test).

a. Test Description

Previous tests of sensory assessment were based on one sensory trait, so they were called “one-dimensional assessments”. This test is a sensory assessment based on more complex sensory properties or which includes many sensory properties, because the quality of a commodity is generally determined by several sensory properties. In this test, many sensory properties are assessed and analyzed as a whole so as to compile the overall sensory quality. The sensory properties selected as quality measures are those most sensitive to changes in quality and the most relevant to quality. These quality sensory properties are included in the quality attributes

A. Organoleptic Test Results

The method used for organoleptic test in this research is hedonic test. Panelists were asked to give the impression of very, very much like very, very dislike of the quality characteristics presented and then continued with their level of preference. The level of preference on the hedonic scale ranges from very much like to very much dislike. In the data analysis, the hedonic scale is transformed into numbers. With this data can be done with statistical analysis. The table of organoleptic test results below is the result of tests carried out by panelists, where there is 1 drink menu with pineapple juice with a ratio of pineapple juice doses in each drink. Each panelist fills out the blanks that have been provided.

1. Organoleptic Test Assessment

A. Dosing and Analysis of Beverage Color

From the table above, the results of the analysis are as follows:

a. Dose

1. 50ml = (P1 to P100) = 6.88
2. 75ml = (P1 to P100) = 6.83
3. 85ml = (P1 to P100) = 6.8

b. Analysis

From the results of calculations taken from the results of organoleptic testing of pineapple juice drinks by panelists who have been converted into averages, it turns out that the average with the highest value of 6.88 for organoleptic testing of the color of pineapple juice drinks is in the color parameter. like the 50ml dose.

B. Dosage and Taste Analysis of Beverages

From the table above, the results of the analysis are as follows:

a. Dose

1. 50ml = (P1 to P100) = 6.22
2. 75ml = (P1 to P100) = 6.62
3. 85ml = (P1 to P100) = 6.54

b. Analysis

From the results of calculations taken from the results of organoleptic testing of pineapple juice drinks by panelists who have been converted into averages, it turns out that the average with the highest value of 6.62 for organoleptic testing of the aroma of pineapple juice drinks is in the taste parameter. like the 75ml dose.

C. Dosing and Analysis of Beverage Aroma

From the table above, the results of the analysis are as follows:

a. Dose

1. 50ml = (P1 to P100) = 6.58
2. 75ml = (P1 to P100) = 6.87
3. 85ml = (P1 to P100) = 6.66

b. Analysis

From the results of calculations taken from the results of organoleptic testing of pineapple juice drinks by panelists who have been converted into averages, it turns out that the average with the highest value of 6.87 for organoleptic testing of the taste of pineapple juice drinks is in the aroma parameter. like the 75ml dose.

Conclussion

Based on the results of the study entitled Application of Pineapple Juice as a Signature Drink at Bintan Cakrawala Polytechnic Through Organoleptic Tests, it can be concluded that in terms of color the most in demand by respondents is pineapple juice which has a dose of 50 ml of fruit juice with the highest average at a value of 6.88. In terms of taste, the most in demand by respondents is pineapple juice which has a dose of 75 ml of fruit juice with the highest average value of 6.87. In terms of aroma, the most in demand by respondents is pineapple juice which has a dose of 75 ml of fruit juice with the highest average value of 6.62.

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