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Khaliya Onomiyea: Jurnal Abdimas Nusantara menerima artikel bidang pengabdian masyarakat khususnya penerapan ilmu pengetahuan dan teknologi berupa implementasi, penyuluhan dan sosialisasi konsep, model/prototipe, dan alat yang merupakan hasil pelaksanaan kegiatan pengabdian kepada masyarakat.

Vegetable Salad as a Healthy Food Alternative: Organoleptic Test Method

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Abstract

Vegetables have health benefits. Tomatoes, carrots, lettuce, corn, cucumbers and mayonnaise as flavourings provide a taste that respondents like. The number of respondents is 22 students. The method used is a simple organoleptic test and the product SWOT test. Products are presented and evaluated. The results showed that the vegetable salad was well received in terms of taste, aroma, presentation. Overall, vegetable salad products can be used as an alternative to healthy food.

Abstrak

Sayuran memiliki manfaat kesehatan. Tomat, wortel, selada, jagung, timun dan mayones sebagai penyedap rasa memberikan rasa yang disukai responden. Jumlah responden adalah 22 siswa. Metode yang digunakan adalah uji organoleptik sederhana dan uji SWOT produk. Produk disajikan dan dievaluasi. Hasil penelitian menunjukkan bahwa salad sayuran diterima dengan baik dari segi rasa, aroma, penyajian. Secara keseluruhan, produk salad sayuran dapat dijadikan alternatif makanan sehat.

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1. Introduction

Salad is an example of a minimally processed product. In the salad there are several kinds of fruit and vegetables. Ready-to-eat salads are increasingly in demand by people today. In addition to taste, salads also contain many nutrients and are rich in fibre, vitamins and carbohydrates and others [1]. Salads can be combined with various types of vegetables, fruits and also combined with more sauces to add flavour [2]. It should be noted that vegetables are needed by the human body because they contain a lot of fibre. In addition, carbohydrates in vegetables are a source of energy for the human body. And this energy is in; green vegetables, corn, tomatoes, oranges and others. Vegetables provide benefits to the human body. Vegetables can also be found in almost all Indonesian dishes, either raw or processed into various forms of cuisine [3].

As explained above, vegetables are rich in fibre, vitamins and carbohydrates. The fibre contained in vegetables is dietary fibre. Fibre is considered as a source of energy that is not available and can facilitate bowel movements [3]. Dietary fibre can also be known as dietary fibre or dietary fibre. For this reason, it is important for

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humans to consume dietary fibre (in this case vegetables) for their body needs.[4] In making the salad itself, it can be divided into 2 namely; fruit salad consisting of fruits and vegetable salad consisting mostly of fruit vegetables and green vegetables. In this paper the author will use vegetables as the basic ingredients of salads, both green vegetables and fruit vegetables. The types of vegetables to be used are; lettuce, carrots, tomatoes, corn and cucumbers. In addition to vegetables that will be the basic ingredients, the author will also use several kinds of flavourings, including; sugar and pepper. The author will also use the sauce as a salad mixture.
This paper describes the manufacture of vegetable salads with fresh vegetables as raw materials. This paper also briefly explains why choosing these fresh raw materials. Conduct SWOT analysis and evaluate organoleptic test results to develop vegetable salad products as healthy food.

2. Methods

The research method used in this paper is quantitative.

2.1. Analysis Data

In this paper, the data analysis technique used to obtain the percentage results is the Likert scale. Likert scale is a scale used to measure perceptions, attitudes and opinions of a person or group regarding an event or social phenomenon that occurs [5].

$$\% = (n/N) \times 100$$

Where:

n = Number of respondents who gave answers.
N = Number of respondents who were given a questionnaire.
% = Percentage.

2.2. SWOT Analysis

This paper uses SWOT analysis to see the strengths, weaknesses, opportunities and threats of this product before evaluating it to reduce the weaknesses and threats. Thus, the strengths and opportunities of the product are more significant than the weaknesses and threats.

3. Result and Discussion

3.1. Carrot (Daucus carota subsp. sativus)

Carrot is one type of vegetable that has high nutritional value, especially vitamin A. In addition, carrots also contain vitamin B, vitamin C, and a little vitamin G. Like other vegetable commodities, carrots are one of the types of vegetables that are easily damaged because after being harvested they still carry out respiration [6].

In addition, damage can also be caused by physiological processes and mechanical, chemical, and microbiological factors [6]. Benefits of Carrots Carrot plant leaves are efficacious for treating wounds in the mouth, canker sores and gingivitis, by chewing fresh carrot leaves.

Carrot plant leaves also improve food digestion, prevent the formation of deposits in the urinary tract and strengthen other important organs (heart, lungs, eyes

and liver). In addition, the leaves of the carrot plant can also be processed into carrot leaf extract which can be used as an external medicine to treat itching on the skin, acne and black spots on the face. While the rhizome or roots can treat pinworms, maintain eye health, digestion, and as an external medicine for burns [7]. So that carrots can also provide health for the body and various things in the health of the body because carrots function for our heart, lungs, eyes and heart.

3.1.2. Tomato (Lycopersicon esculentum mill.)

Tomato is a vegetable plant that has been cultivated for hundreds of years, but it is not known with certainty when it first spread. Judging from its history, the tomato plant originated in America, namely the Andean region which is part of the countries of Bolivia, Chile, Colombia, Ecuador, and Peru. Initially in their home country, tomato plants were only known as weeds.

However, over time, tomatoes began to be planted, both in the field and in the yard of the house, as cultivated plants or consumed plants.[7] Tomatoes contain complete and important nutrients for humans. Tomatoes are rich in vitamin C and several antioxidants, including vitamin E and lycopene.

In addition, tomatoes also contain natural dietary fibre which is very good for human digestion and also the presence of protein in tomatoes makes it a very nutritious fruit. In 180 grams of ripe tomatoes, vitamin C contained about 34.38 mg which meets 57.3% of vitamin C in a day. The fibre content reaches 1.98 grams and protein is 1.53 grams [8].

3.1.3. Mayonnaise

Mayonnaise is a sauce in French cuisine, so mayonnaise can be used as a base for a variety of cold sauces and dressings. The main ingredients for making mayonnaise are eggs and vegetable oil, but some add lemon juice, mustard, and other ingredients to taste. Mayonnaise is one of the food products that can be developed into functional food through modification of the processing process so that it can produce food products that have health benefits for the body. Mayonnaise is an egg-based product based on a semi-solid oil-in-water emulsion.

This emulsion-based food product has begun to be liked by the community. Usually mayonnaise is consumed as a spread or complement in a food dish. Mayonnaise is made by slowly mixing oil with egg yolks as an emulsifier and other ingredients, such as a solution of vinegar, mustard, sugar, and salt. One of the modifications of mayonnaise processing is the addition of lactic acid bacteria which is beneficial for human health and is safe for consumption.[9] The quality of mayonnaise made from egg yolks supplemented with purslane flour rich in omega-3 fatty acids is expected to improve organoleptic quality and omega-3 fatty acid content. The quality of mayonnaise is influenced by, among other things, emulsifiers and stabilizers derived from egg yolks. Egg yolk is a strong emulsifier because it contains lecithin which binds to proteins to form lecithin. Lecithin has a polar group that binds to water while non-polar binds to oil so that it can bind to oil in water. Reddish yellow mayonnaise is preferred by consumers compared to pale yellow mayonnaise. The distinctive taste and aroma of sour mayonnaise can increase the level of consumer preference for mayonnaise [10].

Foods with high protein can be obtained from egg whites. Egg whites are commonly called albumen, albumen itself contains most of the fluid that is in eggs, which is about 67%. Albumen contains more than 50% of egg protein, and contains other ingredients such as niacin, riboflavin, chlorine, magnesium, potassium, sodium

and sulphur. Albumen consists of four different layers, namely a layer with a thick consistency and a thin layer [11]. Egg white itself is very easy to find, with a very affordable price and also has very good nutrition for humans [1].

3.1.4. Cucumber (Cucumis sativus)

Cucumber or what is often called cucumber is a fruit plant that can be eaten when it is not ripe and also cucumbers can be used as vegetables, cucumber itself belongs to the pumpkin tribe. The benefits of cucumber are lowering high blood pressure, cancer, diarrhoea, typhoid, facilitating urination, and treating thrush [12].

3.1.5. Lettuce (Lactuca sativa)

Lettuce itself is a vegetable that has an important value for food security and the benefits for health can already be felt by the community, this is due to the nutritional content contained in the lettuce itself [13].

3.1.6. Corn (Zea mays)

Corn can be consumed by every level of society, and can be consumed in various processed forms, not only as a staple food but corn can also be used as daily side dishes [14]. Corn also has a lot of very complex nutritional content and also contains substances such as carbohydrates, vitamins, potassium, minerals and protein, because of its many benefits, corn can fight several diseases such as fighting cancer and preventing anaemia [15].

Table 1. Data Analysis Results

Indicator	Very like		Like		Enough		Don't like it much		Total	
	n	%	n	%	n	%	n	%	N	%
Taste	11	50	11	50	0	0	0	0	22	100
Aroma	3	13,6	8	36,4	10	45,5	1	4,5	22	100
Presentation	1	4,5	17	77,3	4	18,2	0	0	22	100
Whole	7	31,8	15	68,2	0	0	0	0	22	100

3.2. Explanation of Test Results

There were 11 respondents 50% who answered very well. There were 11 respondents 50% who answered good. Obtained 0 respondents 0% who chose enough and did not like it. Can Key of most respondents like vegetable salad.

Obtained 3 respondents 13.6% who answered very much like it. Obtained 8 respondents 36.4% who answered like. Obtained 10 respondents 45.5% who answered enough. Obtained 1 respondent 4.5% who answered they did not like it. It can be key that most of the respondents choose 'enough' for the aroma of vegetable salads.

Obtained 1 respondent 4.5% who answered very much like. Obtained 17 respondents 77.3% who answered like. Obtained 4 respondents 18.2% who answered enough. And none of the respondents answered that they did not like it. Can Key that most respondents like the presentation of vegetable salad.

Obtained 7 respondents 31.8% who answered very much like. Obtained 15 respondents 68.2% who answered like. There were no respondents who chose enough and did not like it. Can Key that most respondents like the taste, aroma and also the presentation of the vegetable salad.

3.3. Analysis SWOT

SWOT stand for *strengths, weaknesses, opportunities* and *threats*. This pattern based on logic maximize strengths & opportunities, but also minimize weaknesses and threats [16]. It can be used to evaluate something, like design building [17], education process [18], technologies [19], etc.

Table 2. Analysis SWOT

Strengths	Weaknesses	Opportunities	Threats
• Carrots: Good for eye health, lowers cholesterol • Corn: Maintain intestinal health, maintain healthy skin (vit. C) • Salad: Lose weight, maintain bone health, lower blood pressure • Tomatoes: Prevent stroke, maintain healthy skin, prevent diabetes. Tomatoes also Contain lycopene (bone health) • *Cucumber* L Good for facial health, reduces blood pressure etc. • Affordable cost	• Unable to stand alone (must have complementary foods) • Ingredients for vegetable salad after processing can't be stored for too long, like others because the quality of the vegetable doesn't attract consumers to buy and enjoy it • This vegetable salad only lasts one day after being processed into ready-to-eat food	• Good opportunity to offer it on campus, church, boarding house at an affordable price • On the other hand, the available media such as Facebook, Instagram, etc., can be used in marketing these products online	• The amount of competition regarding each product that will be held captive to each consumer

3.4. Test Results and SWOT Analysis

From the results of the tests that have been carried out, the authors are very satisfied with the test results obtained. Because almost all respondents like this product. From the table above, the writer found that there was 1 (one) person who did not like the smell. Therefore, the author will evaluate it. The discussion of SWOT analysis is that the vegetables used have a weakness, namely they cannot stand alone, therefore the solution is that these foods can be mixed with other foodstuffs. The ingredients used are tomatoes, lettuce, carrot, corn, cucumber in a fresh state or not

withered. The potential of vegetable salad as a healthy food such as broccoli is used as a substitute for rice in Brassica box products. [20]

4. Conclusions

We can easily find vegetables in the market. Fresh vegetable raw materials can be used as vegetable salads as healthy food. The organoleptic test showed that the acceptance of the respondents liked the taste of the vegetable salad product. Overall, the product is preferred by the respondents. Vegetable salad products can be an alternative to healthy food today at an affordable price.

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Author Contributions

H.L. conceived and designed the experiment; Y.L. analyzed data; H.L. and C.T. performed experiments; H.L. wrote the paper.

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Conflicts of Interest

The authors declare no conflict of interest.

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