Acceptability and Protein Levels of Bassang with Addition of Tempe

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ABSTRACT
Bassang is a typical food of South Sulawesi consisting of glutinous corn, cornstarch, coconut milk and sugar which has a low protein content. Protein has an essential function in the body. Tempe is a food that contains high protein that is beneficial for the body. The aims of this study was to measure the acceptance and protein content of bassang with addition of tempe. The type of research was laboratory experimental research withresearch post test group design. Acceptance was assessed based on the results of a hedonic test of 30 panelists conducted at the Organoleptic Laboratory of the Department of Nutrition, Poltekkes, Ministry of Health, Makassar. Protein content was analyzed using themethod micro kjedhal at the Laboratory of Quality Control SMK SMTI Makassar. The data is presented in the form of tables and narratives. The results showed that the most preferred color was bassang with the addition of tempe with a concentration of 40%. The most preferredis aroma bassang with the addition of tempe with a concentration of 30%. The most preferred texture is bassang with the addition of tempe at a concentration of 30% and 40%. The most preferred taste is bassang with the addition of tempe with a concentration of 40%. The protein content of bassang with the addition of tempe was the best from the acceptability result, which was a concentration of 40% and the results showed that the protein content per 100 grams of material was 4.155 grams. The most preferred concentration is bassang with the addition of tempe with a concentration of 40%. The protein content of bassang with the addition of tempe is the best from the results of acceptance, which is a concentration of 40% and the results of the protein content per 100 grams of material are 4.155 grams.

Keywords: *Bassang, tempe, Protein Content*

INTRODUCTION

Indonesian tradisional food is made from a variety of raw materials with a variety of recipes and processing. Some materials that are widely processed include rice, corn and tubers. Traditional food is also consumed in various forms, either as a complete meal, a snack dish, or as a drink (Syah, Hariadi, 2013). South Sulawesi is known have many traditional foods that are only consumed by people of ethnic groups and specific regions. Made from their recipes and known to the public, the ingredients are obtained from local sources and have a taste that is relatively in accordance with the tongue of the local community (Mahendradatta, 2010).

Utilization of corn in South Sulawesi such as sosoh corn which is an ingredient for making traditional foods such as Bassang, edible corn rice such as rice, corn flour which can be an alternative choice of flour. Utilization of corn also comes from corn that has been dried, such as making marning or chips (Suarni, 2013). One of the typical foods

of South Sulawesi made from corn, especially those from Makassar City, is Bassang.

Bassang is a local food from South Sulawesi made from dry corn. It is usually used for breakfast or an afternoon snack. However, these foods are high in carbohydrates but low in protein. Based on 2014 total diet survey data, the population with a low protein intake is 36,1%. South Sulawesi has a low protein intake about 24,8% to 46%. One effort to increase protein intake is to add tempeh to bassang. Tempe is a source of protein derived from fermented soybeans. Tempe contains fatty acids, vitamins, minerals, and antioxidants. It produces good digestive enzymes for carbohydrates, fats and proteins absorption. So tempe is very good for consumption by various groups and various ages.

METHOD

This research is a laboratory experimental that makes bassang with the addition of 30%, 40% and 50% tempeh. All concentration of bassang were tested for acceptability using the hedonic test. The concentration of bassang accepted by panelists was then analyzed for protein level using micro kjeldahl method.

The tools in making bassang with the addition of tempe are a basin, pan, wooden spatula, digital food scale, measuring cup, bowl, spoon, knife and pestle. The ingredients in making bassang with the addition of tempeh are corn pulut, cornstarch, tempeh, coconut milk, pandan leaves, sugar and salt.

The types of data used primary and secondary data. Primary data is bassang acceptance based on four assessment aspects, namely color, aroma, texture and taste. . Data were analyzed using Friedman test.

RESULTS and DISCUSSION

The result showed that bassang that has the highest color acceptance value was 40% tempeh concentration (93%). Friedman test results showed that the best concentration was 40% and showed a difference ($p<0.05$) in the acceptability of bassang with the addition of tempe to the color aspect. Advanced test (Wilcoxon) showed that the bassang with the addition of tempeh 30% with 50%, was different, 40% with 50% was different and 30% with 40% was not different.

The result showed that bassang that has the highest aroma acceptance

value was 30% tempeh concentration (97%). Friedman test results showed that the best concentration was 30% and showed a difference ($p<0.05$) in the acceptability of bassang with the addition of tempe to the aroma aspect. Advanced test (Wilcoxon) showed that the bassang with the addition of tempeh 30% with 50%, was different, 40% with 50% was different and 30% with 40% was not different. The result showed that bassang that has the highest texture acceptance value was 50% tempeh concentration (70%). Friedman test results showed that the best concentration was 30% and 40% and did not show any difference ($p>0.05$) in the acceptability of bassang with the addition of tempe to the texture aspect. The result showed that bassang that has the highest taste acceptance value was 40% tempeh concentration (60%). Friedman test results showed that the best concentration was 40% and showed a difference ($p<0.05$) in the acceptability of bassang with the addition of tempe to the color aspect. Advanced test (Wilcoxon) showed that the bassang with the addition of tempeh 40% with 50%, were not different, 30% with 50% were not different and 30% with 40% were not different.

The protein content of bassang without the addition of tempe is 1.06 grams in 100 grams of sample. While the protein content in bassang with the addition of tempeh formula 40% is 4.155 grams in 100 grams of sample. The addition of tempeh to bassang causes a 4-fold increase in protein level.

The most accepted in this research is tempeh 40% concentration. This research are consistent with Aulia, Setiawan, Sinaga's research on the organoleptic properties of pumpkin cream soup enriched with tempeh that the addition of tempeh affects panelists' preferences in terms of color (Aulia, Setiawan, Sinaga, 2020). This is because, the addition of tempeh make bassang more better. Bassang aroma acceptablity showed lower concentration lead to the acceptance bassang tempeh. Aroma of tempeh which has a bad smell so that the addition of tempeh affects the aroma of the bassang tempe. This research consistent with Karim Abdullah and Dyah Wuri Asriati's research about the characteristics of the tempeh juice drink with the addition of vanilla flavor, that processed tempeh is less liked by the public because it has a bad smell so vanilla flavor is added to help reduce the smell (Abdullah K dan Asriati D W,

2016). Texture is a picture that shows the strength of a product to maintain a pressure. The texture of a food product is influenced by the basic ingredients and treatment during the processing, where the texture affects the taste caused by the material (Winarno, 2004). The results of the research on bassang with the addition of tempeh showed that the panelists' preference level for the texture aspect that the panelists liked the most was F1 at 30% concentration and F2 at 40% concentration, then followed by F3 at 50% concentration. The three concentrations of variation of ingredients in bassang with the addition of tempeh did not have such a big effect, because basically bassang has a slightly texture.

The taste of a food product is known from the process of tasting food products using the sense of taste (tongue). Each panelist has different preferences from each concentration according to their individual tastes. Based on the taste aspect, the results of the assessment of bassang with the addition of tempeh showed that the panelists' preference level for the most preferred taste aspect was 40% concentration. This is because the taste produced by tempeh has a bland taste so it does not give a strong enough taste. Then in the acceptance test of bassang with the addition of tempeh, no sugar was added to the bassang to reduce bias due to panelists who like sweet.

Protein is a substance that is very important for the body because this substance has a main function, namely as a body building substance which also functions as a fuel and a regulator. (Sari, 2011). The Food and Drug Supervisory Agency states that food can be a good source of protein if it contains at least 20% protein from the Nutritional Adequacy Ratio (AKG) (BPOM,2004). Protein analysis in bassang without the addition of tempeh using the original formula. Protein level of Bassang without the addition of tempeh per 100 grams is 1.06 grams. Protein analysis in bassang with the addition of tempeh used the best concentration of acceptability, which was 40% concentration. Protein level of Bassang with the addition of tempeh per 100 grams is 4.155 grams.

CONCLUSION

The conclusion of this study is that the color the most preferred is bassang with the addition of tempeh with a concentration of 40%. The most preferred aroma is bassang with the

addition of tempeh with a concentration of 30%. The most preferred texture is bassang with the addition of tempeh at a concentration of 30% and 40%. The most preferred taste is bassang with the addition of tempeh at a concentration of 40%. The protein content in bassang with the addition of tempeh is the best from the acceptability result, which is a concentration of 40% and the result is that the protein content per 100 grams of material is 4.155 grams. The addition of tempeh to bassang causes a 4-fold increase in protein level.

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LIST OF TABLES

Table 1. Distribution of Assessment Results on Color Aspect

Receptivity	*Sample Group*						p
	F1		F2		F3		
	n	%	n	%	n	%	
Like	27	90	28	93	23	77	0,009
Don't Like	3	10	2	7	7	23	
Total	30	100	30	100	30	100	

Tabel 2. Distribution of Assessment Results on Scent Aspect

Receptivity	*Sample Group*						p
	F1		F2		F3		
	n	%	n	%	n	%	
Like	29	97	27	90	23	77	0,004
Don't Like	1	3	3	10	7	23	
Total	30	100	30	100	30	100	

Tabel 3. Distribution of Assessment Results on Texture Aspect

Receptivity	*Sample Group*						p
	F1		F2		F3		
	n	%	n	%	n	%	
Like	19	63	20	67	21	70	0,707
Don't Like	11	37	10	33	9	30	
Total	30	100	30	100	30	100	

Tabel 4. Distribution of Assessment Results on Flavor Aspect

Receptivity	*Sample Group*						
	F1		F2		F3		
	n	%	n	%	n	%	
Like	12	40	18	60	8	27	0,013
Don't Like	18	60	12	40	22	73	
Total	30	100	30	100	30	100	