

**Figure 3. Average Texture of Wet Noodles**

Based on Figure 3, it can be seen that the addition of bonylip barb protein concentrate affects the preference level of the texture for wet noodles. This is similar to the research that has been done that the addition of fish protein concentrate shows a real influence on texture preference [13]. Treatment A (0%) was not significantly different from treatment B (2,5%) and C (5%), but significantly different from treatment D (7,5%). Treatment D was not significantly different from treatment C, but significantly different from treatment A and B.

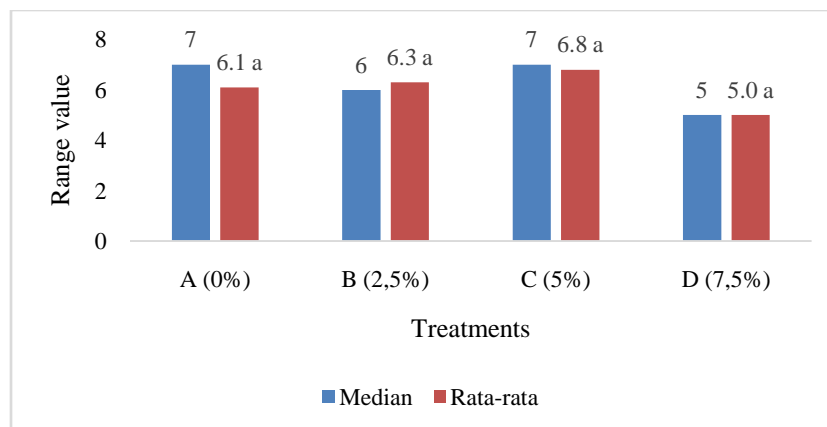
The median value of the preferred level of wet noodles ranged from 5.4 (neutral) up to 7.0 (like) which means that the texture of the wet noodles with the addition of the bonylip barb protein concentrate is still preferred by panelists. The highest average texture value is 7.0 (likes) found in the treatment of wet noodles with the addition of fish protein concentrate of 5% while the lowest average texture value of 5.4 (neutral) is found in the treatment of wet noodles with the addition of fish protein concentrate by 7.5%.

The texture most favored by panelists is the addition 5% of fish protein concentrate to wet noodles. This is in accordance with research that has been done to make rice noodles with the addition of cork fish protein concentrate of 0%, 5%, 10% and 15% and the addition 5% of bonylip barb protein concentrate is most preference by panelists [6]. The addition of bonylip barb protein concentrate with 5% has a wet noodle texture that slightly arises brown spots. This can happen because when sifting bonylip barb protein concentrate is not smooth.

The addition of higher fish protein concentrate will make the panelists' texture less likeable. This is evidenced by the treatment D (7.5%) can reduce the level of preference for wet noodles. In the treatment of 7.5% brown spots occur and the noodles become less elastic. Fish protein concentrate is absorbing water, so the resulting dough is getting thicker and making the wet noodles less elastic [16].

### 3. 4. Preference Level of Taste for Wet Noodles

Taste is a very determining factor in the final decision of consumers to accept or reject a food product [4]. Taste is something that is received by the tongue [11]. The results of the average value on the observation of the taste of wet noodle products can be seen in Figure 4.



**Figure 4. Average Taste of Wet Noodles**

Based on Figure 4 it can be seen that the addition of bonylip barb protein concentrate has no effect on flavor characteristics. This is similar to the research that has been done that the addition of fish protein concentrate does not show a significant difference in taste preferences [13]. The taste test obtained the median value of the level of wet noodle preference in organoleptic assessment ranged from 5.0 (neutral) to 6.8 (like) which means that the taste of wet noodles with the addition of Nile fish protein concentrate is still preferred by panelists. The highest average flavor value of 6.8 (likes) is found in the treatment of wet noodles with the addition of fish protein concentrate of 5% while the lowest average taste value of 5.0 (usual) is found in the treatment of wet noodles with the addition of fish protein concentrate by 7.5%.

The flavor most favored by panelists is the addition 5% of fish protein concentrate to wet noodles, a specific flavor of noodles (flour) found with a slight fish taste. This is in accordance with research that has been done to make rice noodles with the addition of fish protein concentrate of 0%, 5%, 10% and 15%, and added 5% the most preferred taste by panelists [6]. The addition of higher fish protein concentrate will make the taste of wet noodles more and more disliked by panelists. This is proved by the 7.5% treatment can reduce the level of preference for wet noodles because the resulting fish flavor is getting stronger. The higher the addition of fish protein concentrate, the stronger the fish's taste [17].

The flavor component consists of salty, sweet, bitter and sour [18]. These properties are generally determined by the formulation of the material used and most are not affected by processing. In this research, the taste of wet noodles added to bonylip barb protein concentrate did not significantly affect the control treatment, this is because the number of bonylip barb protein concentrate added did not affect the taste of wet noodles.

### 3. 5. Decision Making with Bayes Method

Bayes Method is one way to analyze the decision-making the best of several alternatives that aim to produce optimal value. Decision making for alternative priority values and criteria for color, aroma, texture and taste is carried out using a *Multiple Comparison Test*. The assessment decision matrix can be presented in Table 2.

**Table 2.** The Decision Matrix with the Bayes Method

Treatment of	Median				Values Alternative
	Color	Aroma	Texture	Taste	
0%	7	5	6	7	6.62
2.5%	7	5	5	6	5.88
5%	7	7	7	7	<b>7.00</b>
7.5%	7	5	5	5	5.31
<b>Criteria Value</b>	0.16	0.10	0.17	<b>0.57</b>	

Based on table 2, it can be seen that taste is the most important criterion in the panelists final decision in choosing wet noodles with a criterion priority of 0.57. Then followed by a texture with a weight of 0.17 criteria then color with a weight of 0.16 criteria and aroma with a weight of 0.10 criteria. This shows the taste criteria are the main consideration in choosing wet noodle products. The taste of wet noodles is the most influential criterion for consumer ratings for wet noodles by adding Nile fish protein concentrate.

Based on calculations using the Bayes method, it was found that the wet noodles with the addition of the bonylip barb protein concentrate, all treatments were still accepted or preferred by the panelists. The highest alternative value is at 5% treatment at 7.00 while the lowest alternative value is at 7.5% treatment obtains an alternative value of 5.31 (neutral). Based on the results of analysts, wet noodles with the addition of 5% fish protein concentrate are preferred by panelists compared to other treatments.

### 3. 6. Recapitulation of Research Results

Results of research conducted on organoleptic observations include the characteristics of color, aroma, texture and taste, and decision making with the Bayes method can be seen in Table 3.

**Table 3.** Recapitulation of Research Results

Observation of	Wet Noodle Treatment with the Addition of Bonylip barb Protein Concentrate (%)			
	0	2.5	5	7.5
<b>Hedonic Test</b>				
Color	6.7 a	6.5ab	7.3ab	5.6 b
Aroma	5.9 a	5.7ab	6.7ab	4.7 b
Texture	6.1 a	5.6 a	7.0ab	5.3 b
Taste	6.1 a	6.3 a	6.8 a	5.0 a
<b>Method Bayes</b>				
Alternative Value	6.62	5.88	7.00	5.31

The results of Preferredtes (hedonic) based on four parameters are color, aroma, texture and taste of wet noodles with the addition of bonylip barb protein concentrate has a value range of 7.3 to 4.7. Of the four treatments the panelists most favored were the 5% treatments with the highest average of 7.3 to 6.7. Control treatments (0%) to 7.5% are still accepted and preferred by panelists. Based on the *Bayes* Method the alternative value of preference panelists is the largest value of 7.00 at the addition of 5% fish protein concentrate.

#### 4. CONCLUSIONS

Based on research results, the most preferred or best treatment is the addition of fish protein concentrate of 5%. The addition of 5% bonylip barb protein concentration gave the greatest average compared to other treatments on organoleptic characteristics. In addition, the resulting alternative value has the highest value of 7.00.

#### References

- [1] Food Security Agency (BKP). *Directory of Development of Food Consumption*. Jakarta, (2015).
- [2] Susanto, E and A. S. Fahmi. Functional Compounds of Fish: Its Application in Food. *Journal of Application of Food Technology* 1 (4) (2012) 95-102.
- [3] Bangun, R. S. Effect of Lactic Acid Bacteria Fermentation Against Soybean Milk Protein Levels. *Essay*. Semarang State University. Semarang (2009).
- [4] Dewita.,Syahrul and Isnaini. Utilization of Catfish (*Pangasiushyphopthalmus*) Protein Concentrates for the Manufacture of Biscuits and Snacks. *Journal of Fisheries Product Processing* 16 (1) (2011) 30-34.
- [5] Riewpassa, F. Fish Protein Concentrate Biscuits and Probiotics As Supplement to Increase IgA Antibodies and Nutritional Status of Toddler Children. *Dissertation*. Bogor Agricultural Institute. Bogor (2005).
- [6] Siahaan, W. S, N. Ira Sari and S. Loekman. The Effect of Addition of Protein Concentrate for Cork Fish (*Channa striatus*) on the Quality of Rice Curry. *Online Journal of Riau University Students* (2015) 1-13.
- [7] Budihartini, N., I. D. Permanadan P. T. Ina. Effect of Comparison of Wheat and Red Rice bran on the Characteristics of Dry Noodles. *Journal of Fish Science and Technology* 7 (4) (2018) 156-164.
- [8] Nutrition Directorate of the Indonesian Ministry of Health. *List of Food Composition*. BhratarakaryaAksara, Jakarta (1992).
- [9] Hormdok, R and A. Noomhorm. Hydrothermal thermal transportation of rice starch for improvement of rice noodle quality. *Journal of Food Science and Technology* 40 (10) (2007) 1723-1731.
- [10] Soekarto, S. T. *Organoleptic Assessment for the Food Industry of Fisheries*. BhataraKaryaAksara, Jakarta (1985).
- [11] Lamusu, D. Organoleptic Test of Purple Sweet Potato Jalangkote as an effort to Food Diversification. *Journal of Food Processing* 3 (1) (2018) 9-15.
- [12] M. Vellomena., Junianto.,Rosidah., I. Rostini. The addition of the nilempretincenconcentrates on biscuits preferred level. *Global Scientific Journals* 7 (11) (2019) 722-728.
- [13] Rizki, MA, Dewita and Suparmi. Quality Study offortified with Patin (*Pangasiushyphopthalmus*) Fish Protein Concentrates. *Online Journal of Riau University Students* (2018) 1-14.
- [14] Leksono, T and Syahrul. Quality Study and Consumer Acceptance of Fish Floss. *JurnalNatur Indonesia* 3 (2) (2001) 45-54.
- [15] Salampessy, R and R. Siregar. Making Catfish Protein Concentrates and Their Applications in Dumplings Crackers. *Journal of Fisheries and Marine Affairs* 2 (2) (2012) 97-104.
- [16] Defira, R., Desmelati and Dahlia. Effect of Fortification of Tilapia (*Oreochromis niloticus*) Protein Concentrate on Sweet Bread. *Journal of Agroindustry* 5 (2) (2019) 122 - 131.
- [17] Nando R., Suparmi and Dewita. Study of Making Biscuits With the Addition of Cork (*Channa striata*) Protein Concentrates. *Online Journal of Riau University Students* (2015) 1-10.
- [18] Fellows. *Food Processing Technology Principle and Practice*. Ellis Hood Wood. Oxford, England (1992).