Internationalization of Indonesian Traditional Culinary (Case Study: Enrichment Goat Tongseng with Red Wine)

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Abstract – Indonesia is currently in the midst of promoting their nature beauty and culture diversity including its culinary. Despite becoming a soft diplomacy to many countries in the world, this work has an objective to increase the number of foreign tourist coming to Indonesia. Beside Rendang and Fried Rice, Indonesia still have number of Culinary to be promoted, however some consideration is necessary in order to internationalized Indonesian Culinary. Wine as a mixture for food is possible to be added in 'Tongseng' (Goat Sweet Curry Soup) as one of Indonesian famous dish. The purpose of this research is to increase the quality of Tongseng, so it can raise the popularity into the people around the world. The problem discussed is the percentage use of wine toward the quality and consumer's preference about Tongseng. Author used ANOVA and Duncan Test to test hedonic and hedonic quality level which was tested by 20 moderate trained panelists. Then it was found that Tongseng sample with 30% wine is rated the best.

Keywords – *Traditional Food, Red wine, Tongseng, Goat, Soup.*

I. INTRODUCTION

Since 2012, Indonesian government through Ministry of Tourism and Economy Creative has confirmed 30 Icon of Indonesian Traditional Culinary in objective to turn it to be a soft diplomacy to many countries in the world for Indonesia to be well known of its culinary beside the nature beauty and diversity of culture. Rendang and fried rice are the example of popular Indonesian food, however there are 1001 more of Indonesian original dish which are not enough popular. Some aspects are playig part on this, from a complicated step of making the particular dish, limited ingredients to its spiciness which are most of the times not sutable enough for foreign people palate. Some solutions then needed in order to introduce Indonesian Traditional food to International world. One of the solutiom we proposed is to harmonize between International taste with Indonesian taste such as adding wine into Indonesian dish, in this research, the dish choosed is Tongseng.

Wine

Wine is a beverage originaly coming from Mesopotamia region which then spreading to many countries in the world. Wine is a beverage containing alcohol in the range between 8-15% as a result from grape fermentation. Wine making knowledge known as Oenology and its experts known as Oenologist (Rankine, 1998). Indonesia Ministry of Law in 2012 no.762 declare wine as a result of a whole fermentation from grape or and its mixture. President Decree no.3, 1997 regarding type of Alcoholic Beverage declare that Wine include t type B which is a beverage consisting alcohol and etanol (C_2H_5OH) more than 5% to 20%.

Cooking wine is a method of cooking using wine into the process of making dish. Red Wine normaly uses for 3 objectives such as for marinating, additional ingredients or or accompany the dish. In marinating process, wine is helping meat, chicken or seafood to get tender faster due its acid contains in the wine after the fermentation. In cooking process, wine is giving extra taste to the food.

Tongseng

Tongseng is a traditional dish from Central Java. In 18th to 19th Century traders from Middle East were coming to do trading in Indonesia Archipelago. They were spreading religion and their culture including traditional food, consuming meat and Goat/goat. Tongseng made by cooking goat with sweet soya sauce, herbs and spices, and cooked it with Curry sauce. To have some texture, fresh tomato and cabbage is adding. This dish is famous as Tongseng. Klego region, Boyolali, Central Java believe to be the first place resulting Tongseng.

Data & Method of Research

Ingredients in Tongseng making process include goat meat, bay leave, water, coconur milk, galangal, lemongrass, cauiflower, spring onion, tomato, shallot, garlic, chili, sweet soya sauce oil, pepper, candlenut, turmeric, ginger and Coriander. Writer adding one type of table wine which is *red wine Gerard Bertrand reserve special Merlot 2014 - France*.

Problematics

Based on the background above, the problems conclude for this research are below:
1. Adding wine with different quantity, will it resulting different quality of Tongseng?
2. Is there any differences of sensoric quality (texture, taste, aroma, color) toward Tongseng with red wine quality?
3. Is there any preferences different from the consument towards Tongseng with red wine?

II. METHODS

A. Place & Time of Research

Research of adding Wine into Tongseng in kitchen of STP Sahid by inviting 20 innternational students (Darmasiswa Program) come from 16 nationality as panelis.

B. Formule of Wine Used

TABLE 1. INGREDIENT

No	Ingredient	A0 0%	A1 10%	A2 20%	A3 30%
1	Water	1000 ml	1000 ml	1000 ml	1000 ml
2	Coconut Milk	800 ml	720 ml	640 ml	560 ml
3	Wine	0	80 ml	160 ml	240 ml

C. Scheme of Research

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                    ┌──────────────────────┐
                    │ Equipment Preparing  │
                    └──────────┬───────────┘
                               ▼
                    ┌──────────────────────┐
                    │ Ingerdient Preparing │
                    └──────────┬───────────┘
                               ▼
                    ┌──────────────────────┐
                    │       Scaling        │
                    └──────────┬───────────┘
                               ▼
  ┌─────────────┐   ┌──────────────────────┐
  │ Preparation │   │       Washing        │
  └─────────────┘   └──────────┬───────────┘
                               ▼
                    ┌──────────────────────┐
                    │       Cutting        │
                    └──────────┬───────────┘
                               ▼
                    ┌──────────────────────┐
                    │  Grinding the Spices │
                    └──────────┬───────────┘
                               ▼
                    ┌──────────────────────┐
                    │      Marinated       │
                    └──────────┬───────────┘
                               ▼
                    ┌──────────────────────┐
                    │      Boilling        │
  ┌─────────────┐   └──────────┬───────────┘
  │   Process   │              ▼
  └─────────────┘   ┌──────────────────────┐
                    │      Cooking         │
                    └──────────┬───────────┘
                               ▼
  ┌─────────────┐   ┌──────────────────────┐
  │  Finishing  │   │      Serving         │
  └─────────────┘   └──────────────────────┘
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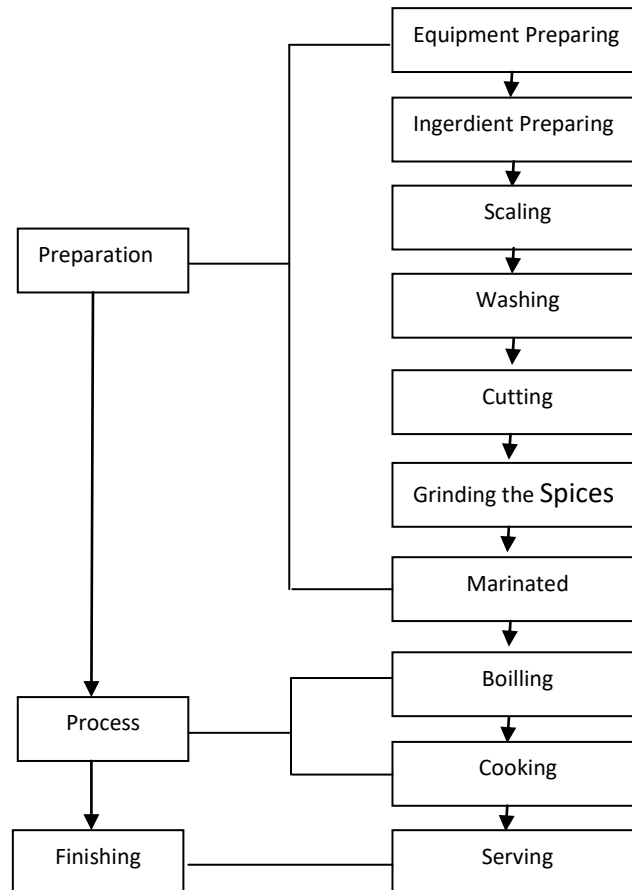
Fig. 1 Scheme Of Research

III. RESULT AND DISCUSSSION

This research is using the combination of quantitative and qualitative method which also known as "multi method" (Jonker and Pennink, 2010; Sugiyono, 2007). Qualitative as a result of the process of making Tongseng and Quantitative as a result of sensoric evaluation of the questionnaire from panelis, using the analysis of One Way Anova to find out the impact and criteria toward the expected result (Hamdi & Bahruddin, 2014) and Duncan Test to match the errors for each range of total group toward the expected act (Sahai & Ageel, 2012) using SPSS 20.

Sensoric evaluation or organoleptik is a knowledge using human senses to define its texture, appearance, aroma and food flavor. Organoleptik test done to 20 panelis people of non moslem foreign students who favoured Goat dished and wine with two type of test, which are (i) Preference Test (Hedonic Test) such as very like, like, fair, not really like, dislike, hate (ii) Quality Test (Hedonic Quality Test) such as good or bad and tender-hard for meat. Each anelis obliged to give scores to Tongseng in hedonic test form. Scoring done by giving a ($\sqrt{}$) to each parameter available.

A. **Average Result from Hedonic Test**

To know the level of public preference of Tongseng with wine, preference test applied to test the perimeter in terms of color, taste, aroma, and texture. The analysis used in this preference test is One-Way ANOVA (Analysis of Variance) due the testing is done by using each indicator.

TABLE 2. HEDONIC TEST RESULT

	Hedonic Test			
Average parameters	Sample 0%	Sample 10%	Sample 20%	Sample 30%
Collour	3.45	4.25	3.85	3.60
Taste	3.20	4.00	2.25	3.85
Flavor	3.05	3.70	4.15	4.55
Texture	3.00	3.45	3.95	4.30
Total Average	3.18	3.85	4.05	4.08

The average result of preference test samples found that a 30% wine mix is the best sample with a very brown color, very tasting wine, and a creamy and very flavorful meat texture, with a total average of 4.08.

1) Hedonic Test with colour parameter

TABLE 3. HEDONIC TEST RESULT WITH COLOUR PARAMETER

	Hedonic Test			
Collour Parameters	Sample 0%	Sample 10%	Sample 20%	Sample 30%
Average	3.45	4.25	3.85	3.60

From the table. 2 above, the hedonic result is known that the preferred color is a sample of 10% wine, then the second rank of 20% wine, and the third rank of 30% wine.

TABLE 4. DUNCAN COLOR PARAMETER TEST RESULT

Duncan

Produk	N	Subset	
		1	2
0	20	3.4500	
30	20	3.6000	
20	20	3.8500	3.8500
10	20		4.2500
Sig.		.077	.063

Means for groups in homogeneous subsets are displayed.

Based on observed means.

The error term is Mean Square(Error) = .448.

a. Uses Harmonic Mean Sample Size = 20.000.

b. Alpha = .05.

Duncan color parameter test results with Alpha 0.05 on Tongseng with red wine sample stated that 0% sample and 10% wine there is no real color difference. In the sample 10% and 20% wine also there is no real color difference. In the sample 20% and 30% of wine there is no real color difference. But in the sample 0%, 20% and 30% wine there is a real color difference.

2) Hedonic Quality Test Result

TABLE 5. HEDONIC TEST WITH TASTE PARAMETER RESULT

	Hedonic Test			
Taste Parameters	Sample 0%	Sample 10%	Sample 20%	Sample 30%
Average	3.20	4.00	2.25	3.85

From the preference test result or hedonic test according to 20 panelists to taste parameter is a sample of 20% wine, second rank is 10% wine, and third rank is 30% wine

TABLE 6. HEDONIC TEST RESULT WITH TASTE PARAMETER

Duncan

Produk	N	Subset	
		1	2
0	20	3.2000	
30	21		3.8571
10	20		4.0000
20	19		4.2632
Sig.		1.000	.079

Means for groups in homogeneous subsets are displayed.

Based on observed means.

The error term is Mean Square(Error) = .467.

a. Uses Harmonic Mean Sample Size = 20.000.

b. Alpha = .05.

Duncan test result to texture parameter with Alpha 0,05 on sample of Goat Tongseng with wine stated that sample 0% and 10% wine there is no real texture difference, but there is real texture difference with sample 20 and 30% wine.

3) Hedonic Test with aroma parameter

TABLE 7. HEDONIC TEST RESULT WITH FLAVOR PARAMETER

	Hedonic Test			
Taste Parameters	Sample 0%	Sample 10%	Sample 20%	Sample 30%
Average	3.05	3.70	4.15	4.55

The preference test result or hedonic test is known that according to 20 panelists the preferred aroma parameters are 30% wine sample, the second rank is 20% wine, and the third rank is 10% wine.

TABLE 8. DUNCAN HEDONIC TEST RESULT WITH AROMA PARAMETER

Duncan

produk	N	Subset			
		1	2	3	4
0	20	3.0500			
10	20		3.7000		
20	20			4.1500	
30	20				4.5500
Sig.		1.000	1.000	1.000	1.000

Means for groups in homogeneous subsets are displayed.

Based on observed means.

The error term is Mean Square(Error) = .272.

a. Uses Harmonic Mean Sample Size = 20.000.

b. Alpha = .05.

Duncan test results aroma parameters with Alpha 0.05 in Tongseng with wine stated a significant difference of aroma between control sample of 0%, 10%, 20% and 30% wine.

4) Hedonic Test with texture parameter

TABLE 9. HEDONIC TEST RESULT WITH TEXTURE PARAMETER

Hedonic Test				
Taste Parameters	Sample 0%	Sample 10%	Sample 20%	Sample 30%
Average	3.00	3.45	3.95	4.30

The preference test result or hedonic test stated that according to 20 panelists on the preferred texture parameters are 30% wine samples, the second rank is 20% wine, and the third rank is 10% wine.

TABLE 10. DUNCAN HEDONIC TEST RESULT WITH TEXTURE PARAMETER

Duncan

produk	N	Subset		
		1	2	3
0	20	3.0000		
10	20		3.4500	
20	20			3.9500
30	20			4.3000
Sig.		1.000	1.000	.073

Means for groups in homogeneous subsets are displayed.

Based on observed means.

The error term is Mean Square(Error) = .370.

a. Uses Harmonic Mean Sample Size = 20.000.

b. Alpha = .05.

Duncan test results with aroma parameters in Alpha 0.05 in Tongseng with wine stated that there is a significant difference of aroma between control sample 0%, 10%, 20% and 30% wine.

B. Hedonic Quality Test Result

Quality test or hedonic test done to determine the quality difference from each sampel. Hedonic test done from 20 trained panelist

TABLE 11. HEDONIC QUALITY RESULT

Average Parameters	HEDONIC TEST			
	Sample 0%	Sample 10%	Sample 20%	Sample 30%
Collour	4.00	3.00	2.25	4.30
Taste	1.00	2.10	2.70	3.55
Flavour	1.00	2.00	2.75	3.45
Texture	1.75	2.35	2.90	3.10
Average	1.94	2.36	2.65	2.89

The average result of the entire hedonic quality test sample stated that the 30% wine mix is the best sample with very brown color, very strong taste of wine, and the texture of the meat is soft and aromatic. This is caused by the total value of the largest obtained among the other substitutes with a total average of 2.89.

1) Hedonic Test with Color Parameter

TABLE 12. HEDONIC TEST RESULT WITH COLOR PARAMETER

Average Parameters	HEDONIC TEST			
	Sample 0%	Sample 10%	Sample 20%	Sample 30%
Collour	4.00	3.00	2.25	4.30

From the result of quality test or hedonic quality test, stated that according to 20 panelists trained, the preferred color parameters are with 10% wine samples with slightly dark brown criteria, the second rank is 20% wine, and third rank is 30% wine.

TABLE 13. DUNCAN HEDONIC TEST RESULT WITH COLOR PARAMETER

Duncan

produk	N	Subset			
		1	2	3	4
30	20	1.4500			
20	20		2.2500		
10	20			3.0000	
0	20				4.0000
Sig.		1.000	1.000	1.000	1.000

Means for groups in homogeneous subsets are displayed.

Based on observed means.

The error term is Mean Square(Error) = .114.

a. Uses Harmonic Mean Sample Size = 20.000.

b. Alpha = .05.

Duncan color parameter test results with Alpha 0.05 in Tongseng samples with wine stated that samples 0%, 10%, 20% and 30% wine shows real color differences in hedonic quality test.

2) Hedonic Test with taste Parameter

TABLE 14. HEDONIC TEST RESULT WITH TASTE PARAMETER

	HEDONIC TEST			
Average Parameters	Sample 0%	Sample 10%	Sample 20%	Sample 30%
Taste	1.00	2.10	2.70	3.55

From the result of quality test or hedonic quality test, stated that according to 20 panelists trained, the preferred taste parameter is with sample of 30% wine with highly tasty criteria of wine, then the second rank is 20% wine, and third rank is 10% of wine.

TABLE 15. DUNCAN HEDONIC TEST RESULT WITH TASTE PARAMETER

Duncan

produk	N	Subset			
		1	2	3	4
0	20	1.0000			
10	20		2.1000		
20	20			2.7000	
30	20				3.5500
Sig.		1.000	1.000	1.000	1.000

Means for groups in homogeneous subsets are displayed.

Based on observed means.

The error term is Mean Square(Error) = .170.

a. Uses Harmonic Mean Sample Size = 20.000.

b. Alpha = .05.

Duncan test with color parameter results with Alpha 0.05 in Tongseng samples with wine stated that 0%, 10%, 20% and 30% wine samples shown real color difference.

3) Hedonic Test with Texture parameter

TABLE 16. HEDONIC TEST RESULT WITH TEXTURE PARAMETER

	HEDONIC TEST			
Average Parameters	Sample 0%	Sample 10%	Sample 20%	Sample 30%
Texture	1.75	2.35	2.90	3.10

From the result of quality test or hedonic quality test, stated that according to 20 panelists trained, the preferred texture parameters are samples with 30% wine showing soft meat criteria, the second rank is 20% wine, and third rank is10% wine

TABLE 17. DUNCAN HEDONIC TEST RESULT WITH TEXTURE PARAMETER

Duncan

Produk	N	Subset		
		1	2	3
0	20	1.7500		
10	20		2.3500	
20	20			2.9000
30	20			3.1000
Sig.		1.000	1.000	.143

Means for groups in homogeneous subsets are displayed.

Based on observed means.

The error term is Mean Square(Error) = .183.

a. Uses Harmonic Mean Sample Size = 20.000.

b. Alpha = .05.

The Duncan test with texture parameter in Alpha 0.05 in Tongseng samples with wine stated that 30% samples, and in 20% wine shown no real texture difference, somehow a significant texture difference appeared compared to 10% and 0% wine samples.

4) Hedonic Test with aroma parameter

TABLE 18. HEDONIC TEST RESULT WITH FLAVOUR PARAMETER

	HEDONIC TEST			
Average Parameters	Sample 0%	Sample 10%	Sample 20%	Sample 30%
Flavour	1.00	2.00	2.75	3.45

From the result of quality test or hedonic quality test, stated that according to 20 panelists trained, the preferred aroma parameters are shown in 30% wine samples with very scented wine criteria, then the second rank is 20% wine, and the third rank is 10% wine.

TABLE 19. DUNCAN HEDONIC TEST RESULT WITH AROMA PARAMETER

Duncan

produk	N	Subset			
		1	2	3	4
0	20	1.0000			
10	20		2.0000		
20	20			2.7500	
30	20				3.4500
Sig.		1.000	1.000	1.000	1.000

Means for groups in homogeneous subsets are displayed.

Based on observed means.

The error term is Mean Square(Error) = .141.

a. Uses Harmonic Mean Sample Size = 20.000.

b. Alpha = .05.

Duncan test results aroma parameters with Alpha 0.05 in Tongseng with wine sample stated that samples with 0%, 10%, 20% and 30% wine has a real wine flavor difference.

IV.   CONCLUSION & RECOMMENDATION

Based on research outcome and study, the conclusion are:

a. Wine could become one of ingredients of Goat Tongseng, therefore it practically enhance the quality and aroma. The application of red wine will be better in certain amount, because it can transform the flavour and scent of the dishes as well as increasing the production cost.

b. There's influence in the wine application in different percentage of amount such as 10%, 20%, and 30% impact the Tongseng sensor quality look by the colour, flavour, aroma, and texture. Control product has bright brown colour, no wine flavour, no wine aroma, and meat not soft. The 10% product has light dark brown colour, hint of wine aroma, and slightly tender meat. The 20% product has dark brown colour, noticeable wine scent and flavour also tender meat texture. The 30% product has thick dark brown colour, strong wine scent and flavour as well as really tender texture of meat.

c. Tongseng with 30% of wine rated as the best proportion from all preference aspects of all samples

Based on the research results the recommendations are below :

a. Tongseng with 30% of wine can be socialize to public and food industry by its high score from hedonic test/preference test.

b. Following similar research is necessary for Tongseng with red wine mixture of other type in objective to make Tongseng becoming a competitive dish

c. Following similar research using any kind Indonesian Traditional Culinary with other type of Red wine as a mixture in objective to Internationalized Indonesian dishes

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