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## APPENDIX

### 1. Approved Recipe

	<b>CULINARY INNOVATION AND NEW PRODUCT DEVELOPMENT</b>
<b>APPROVAL RECIPE</b>	
Recipe Name	: BANANA PEEL PASTA
TITLE OF C&D	: APPLICATION OF BANANA PEEL FLOUR IN GLUTEN FREE PASTA
Yield	: 1-2 portion
Main Ingredients	: 39 g banana peel flour, 46 g tapioca starch, and 46 g gluten free bread premix
Ingredients	:
<b>A. For banana peel flour</b>	
<ul style="list-style-type: none"><li>- 300 g banana peels</li><li>- 1000 g water</li><li>- 1 g NaHSO<sub>3</sub></li></ul>	
<b>B. For gluten free pasta</b>	
<ul style="list-style-type: none"><li>- 39 g banana peel flour</li><li>- 46 g tapioca starch</li><li>- 46 g gluten free bread premix</li><li>- 80 g whole egg</li><li>- 35 g egg yolk</li><li>- 2 g xanthan gum</li><li>- 5 g salt</li><li>- 5 g sugar</li></ul>	
Method	:
<b>A. For banana peels flour</b>	
<ol style="list-style-type: none"><li>1. Scrape the inside of the banana peels.</li><li>2. Wash the banana peels until clean.</li><li>3. Cut the banana peels into small squares.</li><li>4. In a bowl, dissolve 1 g of NaHSO<sub>3</sub> in 1000 g of water.</li></ol>	



## CULINARY INNOVATION AND NEW PRODUCT DEVELOPMENT

5. Soak the banana peels in the NaHSO<sub>3</sub> solution for 30 minutes to prevent browning.
6. Strain the banana peels.
7. Spread the banana peels on baking paper and bake for 7 hours at 60 degrees.
8. Blend the dried banana peels until smooth.
9. Sift the blended banana peels powder using an 80-mesh sieve.

### **B. For gluten free pasta**

1. Mix banana peel flour, gluten free bread premix, tapioca starch, xanthan gum, salt, and sugar in a bowl.
2. Make a well in the center and add the eggs.
3. Mix well until it becomes a stiff dough.
4. Knead the dough until smooth.
5. Wrap the dough and let it rest for 1 hour.
10. Divide the dough and roll it out using a rolling pin until the dough becomes thinner.
11. Roll it out using a pasta machine.
12. Cut and shape it into farfalle (bow tie shaped pasta).
13. Place the pasta on a tray and bake for 90 minutes at 60 degrees.

### **Product Description :**

Banana peel pasta is a pasta made from banana peels flour and cassava flour. This pasta is designed as a sustainable food alternative, utilizing banana peels that often discarded, turning them into a high-fiber and eco-friendly product. The purpose of developing this product is to reduce food waste produced by banana peels, as bananas are one of the most widely consumed fruits in Indonesia and contribute significantly to food waste. Additionally, banana peels flour and cassava flour are naturally gluten-free, making this pasta a good option for people who are required to consume gluten-free products or for people who need to follow a gluten-free diet due to health conditions such as celiac disease or gluten intolerance.



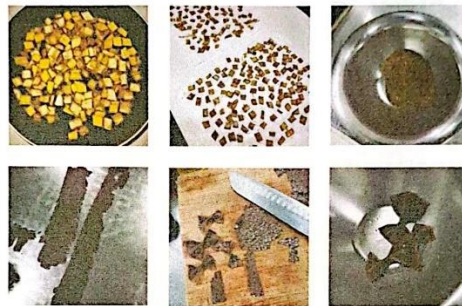
## CULINARY INNOVATION AND NEW PRODUCT DEVELOPMENT

### TRIAL PROGRESS :

In the first trial, I made pasta dough without using water and xanthan gum. It turned out that the pasta dough produced had a texture that was quite dry and brittle because cassava flour absorbs more water. Then in the second trial, I added xanthan gum and water. The pasta dough produced in the second trial had a better texture. It was less dry and less brittle compared to the pasta dough from the first trial.

### TRIAL DOCUMENTATION

#### A. 1<sup>st</sup> trial






#### B. 2<sup>nd</sup> trial





# CULINARY INNOVATION AND NEW PRODUCT DEVELOPMENT

Student Name : Ivonne Valerina Ertanto  
NIM : 2374130010051

Advisor	1 <sup>st</sup> Examiner	2 <sup>nd</sup> Examiner
		
Name: Filias Kusuma, S.E., M.M Date: 24 Mar 2025	Name: Heni Adhianata, S.TP., M.Sc Date: 21/3/2025	Name: Arya Putra Sundjaja, S.E. Date: 24/3/2025

## 2. Approved Sensory



AKADEMI KULINER & PATISERI  
**OTTIMMO®**  
INTERNASIONAL  
CULINARY ARTS - GASTRONOMY - BAKING & PASTRY ARTS

### CULINARY INNOVATION AND NEW PRODUCT DEVELOPMENT SENSORY TEST

**DATE** : 30-Apr-25

**NAME** : Ivonne Valerina Ertanto

**NIM** : 2374130010051

**PRODUCT** : APPLICATION OF BANANA PEEL FLOUR IN GLUTEN FREE PASTA

**ADVISOR** : Filias Kusuma, S.E., M.M


PANELIST	SIGHT	SMELL	TEXTURE	TASTE	OVERALL	TOTAL
Panelist 1	5	4	4	5	4	22
Panelist 2	4	4	4	4	4	20
Panelist 3	3	3	2	3	3	14
Panelist 4	4	4	4	4	4	20
Panelist 5	4	2	4	2	4	16
Panelist 6	3	3	4	4	3	17
Panelist 7	5	5	5	4	4	23
Panelist 8	4	4	4	4	4	20
Panelist 9	4	3	4	4	4	19
Panelist 10	4	4	4	4	4	20
<b>TOTAL</b>	<b>40</b>	<b>36</b>	<b>39</b>	<b>38</b>	<b>38</b>	<b>191</b>

#### NOTES :

1. Sudah tidak ada after taste, tp masih ada bau kurang enak
2. Sudah lebih baik dan lebih kenyal
3. after taste ada rasa yang aneh, tekstur bisa lbh kenyal
4. Good, sudah gak ada aftertastanya
5. Tekstur sudah membaik, the best so far. Namun after taste masih terasa pahit
6. ok
7. Good
8. Slight bitter aftertaste
9. Ok
10. Find some ingredients that can cover or improve the smell



### 3. Consultation Form



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Akademi Kuliner & Pastry  
**OTTIMO**  
INTERNASIONAL  
CULINARY INNOVATION AND  
NEW PRODUCT DEVELOPMENT

No	Date	Topic Consultation	Name/ Signature	Advisor Signature
1.	12 March 2025	Ida resep CSD		
2.	12 March 2025	Ida resep CSD		
3.	17 March 2025	Ida resep CSD		
4.	21 March 2025	Uji coba produk		
5.	21 March 2025	Uji coba produk dan Revisi resep		
6.	13 May 2025	Konsultasi dan revisi Proposal bab 1-3		

No	Date	Topic Consultation	Name/ Signature	Advisor Signature
7.	4 July 2025	Konsultasi revisi bab 1-3		
8.	7 July 2025	Konsultasi revisi bab 1-3 dan konsultasi bab 4-5		
9.	7 July 2025	Konsultasi revisi bab 1-3 dan konsultasi bab 4-5		
10.	8 July 2025	Konsultasi dan revisi bab 4-5		

Name : Iyone Valerie Erlato

Student Number : 237419010051

Advisor : Filias Kusuma, S.E., M.M.

#### 4. Systematic Process Documentation

- 1) Scrape the inside of banana peels and wash it



- 2) Cut and soak the banana peels



- 3) Spread and bake the banana peels



4) Blend and sift the banana peels



5) Mix all the ingredients



6) Knead and wrap the dough



7) Roll the dough



8) Shape and bake the dough

