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## APPENDIX

### 1. Approved Recipe



CULINARY INNOVATION AND NEW PRODUCT DEVELOPMENT

#### APPROVAL RECIPE

- Recipe Name : GLUTEN FREE APPLE PIE  
TITLE OF C&D : PROCESSING GLUTEN-FREE INGREDIENTS INTO  
APPLE PIE.  
Yield : 15 - 20 Portion  
Main Ingredients : 125 G MOCAF FLOUR  
Ingredients :
- Pie Crust :
- 125 g Mocaf Flour
  - 125 g Butter
  - 50 g Almond Flour
  - 50 g Gluten Free Milk Powder
  - 30 g Organic palm sugar
  - 18 g Instant Oat
  - 1,2 g Vanilla Extract
  - 17 g Omega Egg Yolk
- Apple Jam :
- 180 g Green Apple, Chop
  - 20 g Organic palm sugar
  - 100ml Water
  - 3 g Cinnamon Stick
- Method :
1. Firstly Combine the butter, organic palm sugar, and vanilla extract in a bowl and whisk to combine them smoothly and dissolve the organic palm sugar. Beat the egg yolk in again until it's smooth.
  2. Then stir in the oats, almond flour, and milk powder. Whisk thoroughly after gradually adding the mocaf. Once the final mocaf has been added, keep combining with your hands until a sandy texture is achieved.



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3. Next shape the dough into each pie tin, each of twenty-five grams. After pricking with a fork, bake at 160° for 10 minutes. After 10 minutes, take the pie out from the oven and let it cooldown.
4. In the meantime, prepare the apple jam by combining the chopped apples and organic palm sugar in a pan and heating it over low heat. Stir thoroughly after adding the water. until the water is reduced and the apple starts to wilt.
5. Lastly, spread the apple jam over the cooked pie then place it back in the oven, and cook for an additional ten minutes.

### PRODUCT DESCRIPTION

Going with the gluten-free apple pie can be a healthier option which certainly is an ideal option even for those with gluten sensitivity as this application can enable them to enjoy this classic dessert without negative health effects of gluten. This cake is made with nutritious components and packed with fiber ingredients like almond flour, organic palm sugar, gluten free milk powder and instant oat. These can all replace traditional wheat-flour crusts. In addition, the gluten-free pie crusts might be lower in the carbohydrates, which makes them proper for people, who keep their carbohydrate intake track. Through the possibility of a gluten-free variant, this product can ensure that will reach to a much wider group of individuals with different tastes and nutrition needs without compromising customers satisfaction and the quality of their dessert experience. The primary component, the crust, is what sets this pie apart from the others. As I previously stated, to achieve the delicious texture of traditional flakey pie crusts, the regular dough for gluten-free pie crusts typically combines a variety of non-gluten flours, including almond flour, organic palm sugar, gluten free milk powder, and instant oat. This results in a crust that is tender and crumbly, with a slightly different flavor from a wheat crust.



## CULINARY INNOVATION AND NEW PRODUCT DEVELOPMENT



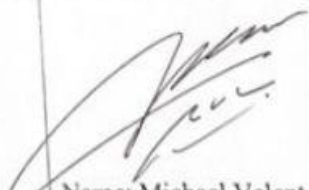
### TRIAL PROGRESS

In the first trial, the pie was baked at 170 degrees celcius for 25 minutes (20 minutes for the first baked and 5 minute for the second rounds) and it was overcooked and burnt. With this, in the second trial, I lowered down the oven temperature to 160 degrees Celsius and put the pie for 10 minutes respectively in each round The pie turned out perfectly baked as the result of this adjusting the exact temperature and time.

### TRIAL DOCUMENTATION



Student Name : Daniella Brillianty Utomo  
NIM : 2274130010019

Advisor	1 <sup>st</sup> Examiner	2 <sup>nd</sup> Examiner
		
Name: Novi Indah Permata S. Date: 28-03-2024	Name: Arya Putra S. Date: 05-04-2024	Name: Michael Valent. Date: 28-3-24

## 2. Approved Sensory



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**OTTIMMO**  
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CREATING ARTS · CRAFTING · BAKING & PASTRY ARTS

### CULINARY INNOVATION AND NEW PRODUCT DEVELOPMENT SENSORY TEST

**DATE** : 17 April 2024  
**NAME** : Daniella Brillianty Utomo  
**NIM** : 2274130010019  
**PRODUCT** : PROCESSING GLUTEN-FREE INGREDIENTS INTO APPLE PIE  
**ADVISOR** : Novi Indah Permata Sari, S.T., M.Sc.


PANELIST	SIGHT	SMELL	TEXTURE	TASTE	OVERALL	TOTAL
Panelist 1	3	4	5	5	5	22
Panelist 2	4	4	2	4	4	18
Panelist 3	5	5	4	5	5	24
Panelist 4	2	4	3	4	4	17
Panelist 5	5	5	1	4	3	18
Panelist 6	2	4	1	4	1	12
Panelist 7	4	4	2	4	4	18
Panelist 8	2	4	4	3	4	17
Panelist 9	2	4	1	4	1	12
Panelist 10	3	4	5	5	5	22
<b>TOTAL</b>	32	42	28	42	36	<b>180</b>

#### NOTES :

1. Ok
2. Tekstur pie kurang kompak, remuk
3. Kulit Pie terlalu mudah patah, dan isian pie perlu ada variasi
4. texture pie kurang crunchy
5. Taste wise sudah okay, tapi texture pie nya sangat mudah hancur
6. Too brittle
7. Untuk texture kurang garing
8. Texture of crust can be more crisp. I suggest your pie has a cover, if you leave it open, the apple becomes too dry
9. -
10. sudah oke



3. Consultation Form



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CREATING ARTS CULINARY SERVICE MARKET ARTS

**CONSULTATION FORM**  
**CULINARY INNOVATION AND**  
**NEW PRODUCT DEVELOPMENT**

Name : Daniella Brillianty Utomo  
 Student Number : .....  
 Advisor : .....

No	Date	Topic Consultation	Name/ Signature	Advisor Signature
1	7/3 2024	Topic CAD & Ingredient		
2	14/5 2024	Product Idea		
3	5/5 2024	Proposal Content		
	6/5 2024	Proposal Content		
	8/5 2024	Product		
	18/7 2024	Product 1 Bob W		

No	Date	Topic Consultation	Name/ Signature	Advisor Signature
4	19/7 2024	Bob W		
	19/7 2024	Bob W		
	31/7 2024	Revisi		
	1/8 2024	Approval 2		
	1/8 2024	Final Report		
	1/8 2024	Final Report		

#### 4. Systematic Process Documentation

##### 1) Ingredients of gluten free apple pie



##### 2) Making the dough



##### 3) Shaping the dough



##### 4) Baked the pie crust





5) Making the apple filling



6) filled

