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APPENDIX

1. Approved Recipe



CULINARY INNOVATION AND NEW PRODUCT DEVELOPMENT

APPROVAL RECIPE

Recipe Name : PUMPKIN PROTEIN BAR
TITLE OF C&D : NUTRIENT-PACKED PUMPKIN PROTEIN BAR HIGH
IN PROTEIN, FIBER, AND MINERALS WITH SUPER
SEEDS AND NATURAL SWEETENERS

Yield : 4 portions

Main Ingredients : 75 g Pumpkin Flour and 75 g Soy Flour

Ingredients :

Pumpkin Protein Bar :

- 75 g Pumpkin Flour
- 75 g Soy Flour
- 10 g Pumpkin Seeds
- 10 g Chia Seeds
- 30 g Dates, chopped
- 1 g Salt
- 10 g Olive Oil
- 25 g Pumpkin Purée
- 20 g Honey
- 40 g Egg Whites
- 30 g Skim Milk Powder

Pumpkin Flour :

- 500 g Fresh Pumpkin

Pumpkin Purée :

- 200 g Fresh Pumpkin, peeled and seeds removed
- 250 ml Water

Method :

Pumpkin Flour :

1. Peel the pumpkin and remove the seeds.
2. Cut it into thin 3mm slices for even drying.
3. Set the dehydrator to 70°C
4. Arrange 3mm slices in a single layer on the trays.



CULINARY INNOVATION AND NEW PRODUCT DEVELOPMENT

5. Dry for 24 hours until completely brittle.
6. Once fully dried, grind the pumpkin pieces into a fine powder using a powder grinder.
7. Sift the powder to remove larger particles.
8. Repeat the sifting and grinding process as necessary to achieve uniform flour.
9. Store in an airtight container in a cool, dry place to prevent moisture absorption.

Pumpkin Purée :

1. Cut the pumpkin into cubes.
2. In a pot, bring 200 ml of water to a boil, add the pumpkin cubes, and cook for 15–20 minutes until soft.
3. Drain well to remove excess moisture.
4. Transfer the cooked pumpkin to a blender.
5. Add 50 ml of water and blend until smooth.
6. Let the purée cool completely before using or storing.

Pumpkin Protein Bar :

1. Preheat the oven to 175°C (350°F)
2. Line a baking sheet with parchment paper.
3. In a bowl, whisk the egg whites until frothy.
4. Add in the honey, olive oil, pumpkin purée, and mix well.
5. In another bowl, combine pumpkin flour, soy flour, skim milk powder, and salt.
6. Gradually mix the dry ingredients into the wet mixture.
7. Stir in pumpkin seeds, chia seeds, and dates until the dough is evenly combined.
8. Divide the dough into 4 portions, each weighing 67 grams.
9. Shape each portion into a rectangle bar and place them on a lined baking sheet.
10. Bake for 15 minutes, until the edges are golden and a toothpick inserted in the middle comes out clean.
11. Once the bars come out of the oven, place them on a cooling rack.



CULINARY INNOVATION AND NEW PRODUCT DEVELOPMENT

12. Let the bars cool completely before storing and consuming.

Product Description

This pumpkin protein bar is a nutritious and delicious snack made from pumpkin flour, soy flour, pumpkin purée, and natural sweeteners like honey and dates. Packed with protein, fiber, and healthy fats from chia seeds, pumpkin seeds, and olive oil, this bar is the perfect balance of flavour and nourishment. Each bar offers a satisfying texture and natural sweetness, perfect for a wholesome and energy-boosting snack. The purpose of this product is to provide a nutritious, high protein snack that support an active lifestyle, aids muscle recovery, and offers a wholesome, on-the-go alternative to processed snacks, all made with natural ingredients. The benefits of this protein bars are high plant- based protein for muscle support and satiety, rich fiber for better digestion, natural energy boosters for sustained vitality, heart-healthy fats for overall wellness, and no artificial additives for a clean, wholesome snack.

TRIAL PROGRESS (50 – 100 WORDS)

For the first trial, the pumpkin protein bars turned out dry, stubby, and slightly burnt due to the baking condition of 175°C for 25 minutes, the bunt parts gave a bitter aftertaste, and the bars lacked dates, making them uneven in sweetness. The pumpkin seeds were too hard since the skins were still on. For the second trial, the egg whites, dates, and chia seeds are doubled, while reducing the baking time to 175°C for 15 minutes, the results were much better, the texture was moist, the taste improved, the smell was pleasant, and the dates were present in every bite.



CULINARY INNOVATION AND NEW PRODUCT DEVELOPMENT

TRIAL DOCUMENTATION



Student Name : Elsie Jocelyn
NIM : 2374130010048

Advisor	1 st Examiner	2 nd Examiner
 Name: Heni Adhianata, S.TP., M.Sc Date: 21 / 3 / 2025	 Name: Elma Sulistiya, S.TP., M.Sc Date: 21 / 3 / 2025	 Name: Chef Jessica Hartan, A.Md. Par Date: 21 / 03 / 2025

2. Approved Sensory



AKADEMI KULINER & PATISERI
OTTIMMO
INTERNASIONAL
CULINARY ARTS, CATERING, BAKING & PAstry Arts

CULINARY INNOVATION AND NEW PRODUCT DEVELOPMENT SENSORY TEST

DATE : 30-Apr-25

NAME : Elsie Jocelyn

NIM : 2374130010048

PRODUCT : NUTRIENT-PACKED PUMPKIN PROTEIN BAR HIGH IN PROTEIN, FIBER, AND MINERALS WITH SUPER SEEDS AND NATURAL SWEETENERS

ADVISOR : Heni Adhianata, S.TP., M.Sc

PANELIST	SIGHT	SMELL	TEXTURE	TASTE	OVERALL	TOTAL
Panelist 1	4	4	5	5	5	23
Panelist 2	4	4	4	4	4	20
Panelist 3	4	4	4	4	4	20
Panelist 4	3	4	4	4	4	19
Panelist 5	4	4	4	4	4	20
Panelist 6	2	2	2	3	2	11
Panelist 7	4	3	4	3	3	17
Panelist 8	4	4	3	4	4	19
Panelist 9	3	3	4	4	4	18
Panelist 10	4	4	4	4	4	20
TOTAL	36	36	38	39	38	187

NOTES :

1. Produk sudah lebih empuk dr sebelumnya
2. Good
3. Rasanya better, lebih creamy dan manis jadi bisa dinikmati
4. Rasa sudah ok. Texture bisa lbh kering sedikit
5. Tekstur padat namun tidak sekeras kemarin. Better
6. texture teralulembek krng manis
7. Lumayan
8. A bit too soft but taste good
9. Ok
10. All is good



3. Consultation Form



OTTIMO
INTERNASIONAL

Akademi Kuliner & Pastry
CONSULTATION FORM
CULINARY INNOVATION AND
NEW PRODUCT DEVELOPMENT

No	Date	Topic Consultation	Name/ Signature	Advisor Signature
1.	12/03	- recipe - demonstration	<i>[Signature]</i>	<i>[Signature]</i>
	18/03	Prep for trial	<i>[Signature]</i>	<i>[Signature]</i>
	18-19/03/2025	Pertemuan kedua trial trial I dan trial II	<i>[Signature]</i>	<i>[Signature]</i>
	21/03/2025	Recipe Consultation	<i>[Signature]</i>	<i>[Signature]</i>
	12/03/2025	Proposal Consultation	<i>[Signature]</i>	<i>[Signature]</i>
	14/5/2025	Proposal Consultation	<i>[Signature]</i>	<i>[Signature]</i>

No	Date	Topic Consultation	Name/ Signature	Advisor Signature
	19/06/2025	Packaging design	<i>[Signature]</i>	<i>[Signature]</i>
	23/06/2025	Packaging design	<i>[Signature]</i>	<i>[Signature]</i>
	25/06/2025	Proposal Revision	<i>[Signature]</i>	<i>[Signature]</i>
	29/06/2025	Revisi upon proposal	<i>[Signature]</i>	<i>[Signature]</i>
	13/06/2025	Chapter 4 & 5	<i>[Signature]</i>	<i>[Signature]</i>

4. Systematic Process Documentation

1) Ingredients of pumpkin protein bar



2) Peel, slice, and chop the pumpkin



3) Dehydrate the sliced pumpkin



4) Grind and shift the dried pumpkin into a flour



5) Boil the chopped pumpkin until tender



6) Strain the boiled pumpkin



7) Puree the strained pumpkin until smooth



8) Measure all ingredients



9) Combine wet and dry ingredients



10) Add seeds and dates



11) The dough should look like this



12) Portion the dough



13) Shape the dough into a bar



14) Bake the bar at 165°C for 15 minutes



15) Cool your pumpkin protein bar and finish



5. Results of Laboratory Analysis



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CLIENT	Henri Adhianata		Kadar Proksimat, Kadar Serat, Kadar Vitamin A, Kadar Vitamin C, Kadar
			Total Gula
Certificate No.	:	102/LT/2025	Test :
Work Order No.	:	102/LT/2025	Date of Test :
			Date of Report :
			August 15, 2025
SAMPLE IDENTITY			
Name	:	Snack Bar	
Amount Received	:	3 Sampel	
Date Collected	:	August 08, 2025	
Date Received	:	August 12, 2025	
Physical Characteristic	:	Solid	
Guideline	:	SNI	
Result	:		

1. Tabel Hasil Uji Kadar Air

No.	Kode Sampel	Kadar Air (%)			Metode
		1	2	3	
1	F1	6,13	6,11	6,31	SNI 01-2891-1992
2	F2	8,49	8,68	8,28	
3	F3	9,16	9,23	9,54	

2. Tabel Hasil Uji Kadar Abu

No.	Kode Sampel	Kadar Abu (%)			Metode
		1	2	3	
1	F1	1,72	1,87	1,66	SNI 01-2891-1992
2	F2	1,68	1,76	1,61	
3	F3	1,46	1,62	1,41	

3. Tabel Hasil Uji Kadar Protein

No.	Kode Sampel	Kadar Protein (%)			Metode
		1	2	3	
1	F1	5,01	5,19	5,32	SNI 01-2891-1992
2	F2	7,96	7,61	7,55	
3	F3	6,16	6,54	6,29	

4. Tabel Hasil Uji Kadar Lemak

No.	Kode Sampel	Kadar Lemak (%)			Metode
		1	2	3	
1	F1	8,25	8,15	8,22	SNI 01-2891-1992
2	F2	8,26	8,62	8,68	
3	F3	7,96	7,18	7,66	

5. Tabel Hasil Uji Kadar Karbohidrat

No.	Kode Sampel	Kadar Karbohidrat (%)			Metode
		1	2	3	
1	F1	78,90	78,68	78,49	SNI 01-2891-1992
2	F2	73,61	73,33	73,88	
3	F3	75,26	75,43	75,10	

6. Tabel Hasil Uji Kadar Serat Pangan

No.	Kode Sampel	Kadar Serat (%)			Metode
		1	2	3	
1	F1	3,20	3,23	3,44	SNI 01-2891-1992
2	F2	3,30	3,45	3,48	
3	F3	3,72	3,84	3,62	

7. Tabel Hasil Kadar Vitamin A

No.	Kode Sampel	Kadar Vitamin A (µg)			Metode
		1	2	3	
1	F1	112	112	112	SNI 01-2891-1992
2	F2	123	119	122	
3	F3	161	160	167	

8. Tabel Hasil Kadar Vitamin C

No.	Kode Sampel	Kadar Vitamin C (mg)			Metode
		1	2	3	
1	F1	1,96	1,66	2,02	SNI 01-2891-1992
2	F2	2,79	2,82	2,68	
3	F3	2,65	2,55	2,64	

9. Tabel Hasil Kadar Total Gula

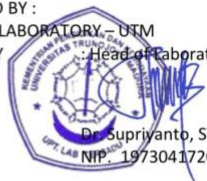
No.	Kode Sampel	Kadar Total Gula (%)			Metode
		1	2	3	
1	F1	8,05	8,02	7,97	SNI 01-2891-1992
2	F2	9,76	9,81	9,88	
3	F3	12,55	12,49	12,46	

Bangkalan, Agustus 16, 2025

CERTIFICATED BY :

INTEGRATED LABORATORY - UTM

APPROVED BY Head of Laboratory



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