CHAPTER IV

RESULT AND DISCUSSION

4.1 Product Result

This Pomelo's peel gulai has a chewy texture because it has been velvet and dried. Pomelo's peel gulai taste very rich and savory because almost all of its ingredients are made from Indonesian aromatics. Pomelo's peel itself actually has a bitter taste, so blanching the peel helps to remove its bitterness because it can eliminates strong flavors and heat-labile microorganisms, maintain food quality, and inactivate endogenous toxic components of food to imrove food tenderness, flavor, and nutritional value, it can reduce the bitter taste of a pomelo's peel (Anthony et al., 2016). This product has been pass through trial and error to find the best recipe as possible. It also has been pass through the sensory test, the result was 6:4. Mostly said that that the pomelo's peel gulai taste bland because it didn't absorb any gulai flavor in it, and some of the tester said that it was already good.

4.2 Nutrition Fact

4.2.1 Nutrition Table

The nutrition value of Pomelo peel is as follows

Table 4.1 Nutritional Value of Pomelo peel per 100 gr

Calorie (cal)	370
Fat (g)	0.1
Carbohydrate (g)	35
Protein (g)	3.5
Fiber (g)	3.5
Sodium (mg)	49
Kalium (mg)	0

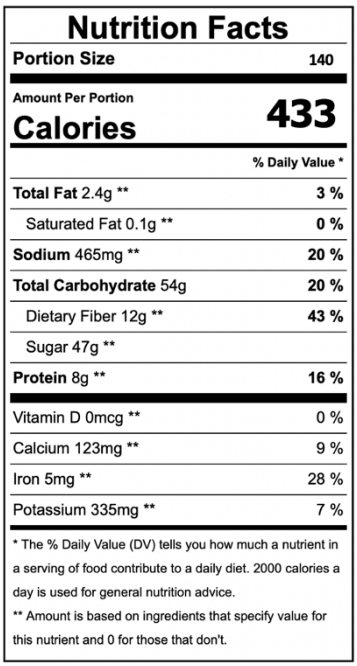
Pomelo's peel also contains fiber, vitamin C, and antioxidant that is good for skin.

4.2.2 Nutrition Calculation

Table 4.2 Nutritional value of ingredients used in The Recipe for Pomelo's peel Gulai

Ingredients	Calories (cal)	Carbohydrate (g)	Protein (g)	Fat (g)	Sugar (g)	Fiber (g)	Sodium (mg)
Pomelo's peel (80 g)	296	28	2.8	0	42	2.8	39
Garlic (25 g)	36	7.1	1.7	0.1	0	0.7	0
Shallots (35 g)	25	5.9	0.9	0	2.8	1.1	4.2
Candlenut (35 g)	196	3.93	2.6	20.4	1.13	2.7	0
Turmeric (10 g)	31	6.7	1	0.3	0.3	2.3	2.7
Coriander (5 g)	17	1	1	1	0	2	2
Cumin (5 g)	19	2.2	0.9	1.1	0.1	0.5	8.4
Bird eye chili (7 g)	4.2	1.4	0	0	0	0	0
Red chili (40 g)	16	3.5	0.8	0.2	2.1	0.6	3.6
Lemongrass (30 g)	28	7.18	0.52	0.14	0	0	2
Galangal (5 g)	2	0.44	0.14	0.05	0.18	0.2	2
Water	0	0	0	0	0	0	0
Coconut milk (7 ml)	17.5	0.5	0	1.75	0	0	2.5
Salt (3 g)	0	0	0	0	0	0	0
Cornstarch	0	0	0	0	0	0	0
Oil (20 ml)	180	0	0	20	0	0	0
Mushroom powder	0	0	0	0	0	0	0
TOTAL	867.7	67.85	12.36	45.04	48.31	12.9	64.4

4.2.3 Nutrition Lable



Nutrition Facts

Portion Size	140
Amount Per Portion	
Calories	**433**
	% Daily Value *
Total Fat 2.4g **	**3 %**
Saturated Fat 0.1g **	**0 %**
Sodium 465mg **	**20 %**
Total Carbohydrate 54g	**20 %**
Dietary Fiber 12g **	**43 %**
Sugar 47g **	
Protein 8g **	**16 %**
Vitamin D 0mcg **	0 %
Calcium 123mg **	9 %
Iron 5mg **	28 %
Potassium 335mg **	7 %

* The % Daily Value (DV) tells you how much a nutrient in a serving of food contribute to a daily diet. 2000 calories a day is used for general nutrition advice.

** Amount is based on ingredients that specify value for this nutrient and 0 for those that don't.

Figure 4.1 Nutrition Fact of Pomelo's peel gulai

4.3 Food Safety and Packaging

4.3.1 Processing and Storage Temperature

The process of making pomelo's peel gulai involves a few techniques like blanching, velvet, drying, and sauteing. All this steps are related to one another because without this one step, pomelo's peel gulai cannot be produced or made. The quantity of each ingredients has passed through trials and errors to get the best recipe as possible, so that people can success to remake this product.

For storage temperature, this pomelo's gulai is a little bit sensitive because of its coconut milk that contains in the gulai. Coconut milk can be easily spoiled, so for storaging this dish is best consumed before 15 hours or can be put it in the chiller for 2-3 days.

4.3.2 Shelf Life

Gulai is a traditional food from Indonesia that is categorize as a wet food, like opor. Coconut milk is easily contaminated if not stored in a cool place, so this product has to be consume as fast as possible after ordering. This pomelo's peel gulai can be stored for 12-15 hours in room temperature, and can be stored for 2-3 days in the chiller.

4.3.3 Product Packaging

Food packaging serves several purposes, including containing and safeguarding food, giving necessary food-related information, and making food handling simple from distribution to the customer's plate. The preservation of food goods and their safe conveyance till consumption are the two main goals of food packaging. The food product's quality might decline physically, chemically, and biologically during distribution. Food packaging ensures the items' quality and safety while extending their shelf life. In addition to providing traceability, signs of tampering, and portion control, marketing is a crucial secondary role of packaging (Jung et al., 2014).

This pomelo's peel gulai is a prepared dish that often served in a bowl. It is advised to serve the cuisine right away and enjoy it while it is still warm because it is prepared to order. However, this generation in digital era, in which everything, even food, is posted online. As a result, it is now very possible to order food through an internet platform. As a result, when it is delivered to clients, pomelo's peel gulai needs to be packaged in a particular way, and arrive safely to the clients.

For this pomelo's peel gulai, plastic packaging is the most suitable one. Plastic that use in this packaging is Polypropylene (PP). for manufacturing procedures involving high heat, polypropylene is the perfect food-safe material.

A clear, glossy film with exceptional strength and puncture resistance is made of polypropylene. It is relatively impermeable to moisture, gases, and smells and is unaffected by variations, in humidity. It possesses a stronger barrier to water vapour and higher permeability to gases and smells, both of which are unaffected by variations in humidity (Fatih et al., 2012).

This is Polypropylene plastic that will be used in food packaging for pomelo's peel gulai. This plastic packaging is 650 ml in capacity.

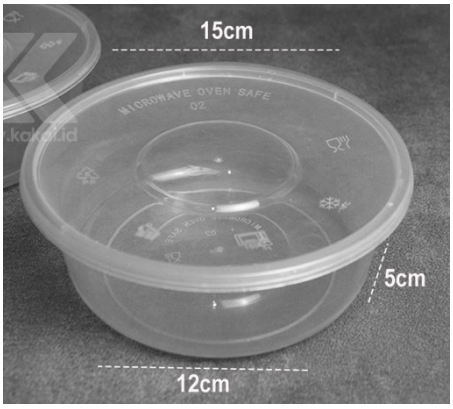


Figure 4.2 Polypropylene Plastic bowl 650 ml

For food safety on the way to clients, to prevent leaking, another packaging is used for this food. HDPE plastic will be use to pack this dish, because it is heat resistant and safe for food.

Figure 4.3 HDPE Plastic

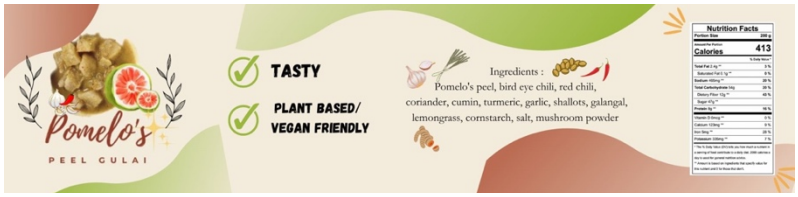


Figure 4.4 Product Logo

4.4 Financial Aspects

4.4.1. Product Cost (Variable Cost, Overhead Cost, Fixed Cost)

Based on the sum of all monthly costs, product costs are determined. The expenses include labour costs, costs for raw material, packaging costs, and expenses for utilities. Based on monthly working days , which are 24 days per month, the manpower cost is taken into account. Regarding raw materials, there are enough for 10 daily recipes, or 240 monthly recipes.

1. **Start-Up Capital**

Table 4.3. Start Up Capital

Tools and equipment	Quantity	Price (/unit)	Sub Total
Measuring Cup	1	Rp. 18,000	Rp. 18,000
Knife	1	Rp. 150,000	Rp. 150,000
Spatula	2	Rp. 15,000	Rp. 30,000
Spoon	5	Rp. 2,500	Rp. 12,500
Strainer	1	Rp. 25,000	Rp. 25,000
Food Processor	1	Rp. 500,000	Rp. 500,000
Sauce Pan	1	Rp. 175,000	Rp. 175,000
Medium Stock Pot	1	Rp. 200,000	Rp. 200,000
Cutting Board	1	Rp. 35,000	Rp. 35,000
Fork	5	Rp. 2,500	Rp. 12,500
Oven	1	Rp. 650,000	Rp. 650,000
Bowl	4	Rp. 10,000	Rp. 40,000
TOTAL			Rp. 1,848,000

2. Labour Cost

Table 4.4 Labour Cost

Occupation	Personnel	Salary (/month)	Sub Total
Cook	1	Rp. 1,000,000	Rp. 1,000,000
Administration	1	Rp. 750,000	Rp. 750,000
TOTAL			Rp. 1,750,000

3. Packaging cost

Table 4.5 Packaging Cost

Packaging	Quantity	Price (/unit)	Sub Total
PP Plastic Bowl	10 pcs	Rp. 1,500 (/pc)	Rp. 15,000
Cable Ties	10 pcs	Rp. 2,500 (/100 pcs)	Rp. 250
HDPE plastic	10 pcs	Rp. 9,500 (/50 pcs)	Rp. 1,900
Clear Plastic Bag	10 pcs	Rp. 22,000 (/50 pcs)	Rp. 4,500
TOTAL (/day)			Rp. 21,650
TOTAL (/month)			Rp. 519,600

4. Utility Cost

Table 4.6 Utility Cost

Facility	Quantity	Price (/unit)	Sub Total
Water	1 m^3	Rp. 2,000 (/m^3)	Rp. 2,000
Electricity	10 kWh	Rp. 3,000 (/kWh)	Rp. 30,000
TOTAL (/day)			Rp. 32,000
TOTAL (/month)			Rp. 768,000

5. Raw Material Cost

Table 4.7 Raw Material Cost

Raw Materials	Quantity	Price (/unit)	Sub Total
Pomelo peel	800 gr	Rp. 2,500 (/kg)	Rp. 2,000
Garlic	250 gr	Rp. 48,900 (/kg)	Rp. 12,225
Shallots	350 gr	Rp. 44,900 (/kg)	Rp. 15,715
Candlenut	350 gr	Rp. 9,900 (/100 gr)	Rp. 34,650
Turmeric	100 gr	Rp. 22,900 (/kg)	Rp. 2,290
Coriander	50 gr	Rp. 3,500 (/40 gr)	Rp. 4,375
Cumin	50 gr	Rp. 4,200 (/50 gr)	Rp. 4,200
Bird Eye Chili	70 gr	Rp. 55,000 (/kg)	Rp. 3,850
Red Chili	400 gr	Rp. 64,900 (/kg)	Rp. 25,960
Lemongrass	280 gr	Rp. 3,950 (/100 gr)	Rp. 11,060
Galangal	50 gr	Rp. 18,900 (/kg)	Rp. 945
Coconut Milk	70 ml	Rp. 3,500 (/65ml)	Rp. 3,770
Salt	30 gr	Rp. 5,000 (/100 gr)	Rp. 1,500
Cornstarch	100 gr	Rp. 5,500 (/150 gr)	Rp. 4,000
Oil	200 ml	Rp. 35,000 (/2L)	Rp. 3,500
Mushroom Powder	20 gr	Rp. 10,000 (/80 gr)	Rp. 2,500
Water	2 L	Rp. 7,500 (/1.5 L)	Rp. 10,000
TOTAL (/day)			Rp. 142,540
TOTAL (/month)			Rp. 3,420,960

6. Total Cost

   Fixed Cost = Labour Cost

   Variable Cost = Raw Material Cost, Packaging Cost, and Utility Cost

   Total Cost (/month) = Labour + Raw Material + Packaging + Utility

   = Rp. 1,750,000 + Rp. 3,420,960 + Rp. 519,600 + Rp. 768,000

   = Rp. 6,458,560

4.4.2 Selling Price

Product Price $= \frac{Total\ Cost\ (/month)}{Total\ Product\ Units\ (/month)}$

$$= \frac{Rp.6{,}458{,}560}{240}$$

$$= \text{Rp. } 26{,}910 \approx \text{Rp. } 27{,}000$$

$$\text{Product Selling Price} = \text{Product Price} + (\textit{Product Price} \times \textit{Profit Percentage})$$

$$= \text{Rp. } 27{,}000 + (\text{Rp. } 27{,}000 \times 35\%)$$

$$= \text{Rp. } 27{,}000 + \text{Rp. } 9{,}450$$

$$= \text{Rp. } 36{,}450$$