

CHAPTER IV

RESULT AND DISCUSSION

4.1 Product Result

A meatball is a small ball of ground meat that is seasoned and cooked. It is a versatile dish that can be made with various types of meats and spices. This meatball is made using duck meat substituting chicken meat and cow meat that is usually used. The result of this project is that the texture of this meatball needs to be a bit chewier by adding more tapioca starch. And also the meatballs need to be less salty by adjusting the seasoning.

4.2 Nutrient Facts

4.2.1 Nutrition Table

The nutritional value of Duck meat is as follows.

Table 4. 1 Nutritional value of duck meat per 100 gr

Calorie (cal)	135
Fat (g)	6
Cholesterol (mg)	77
Protein (g)	18
Sodium (mg)	74
Carbohydrate (g)	0.9
Potassium (mg)	271
Calcium (mg)	11

4.2.2 Nutrition Calculation

The nutrition value of ingredients used in the making of Duck meat for the meat ball.

Table 4. 2 Nutritional value of ingredients used in the making of meatball using duck meat.

Ingredients	Calories (cal)	Carbohydra te (g)	Protei n (g)	Fat (g)	Fiber (g)	Sodium (mg)
Duck Meat (300g)	405	2.8	55	18	0	222
Pepper (1.25g)	3.1	0.8	0.1	0	0.3	0.3
Garlic (18g)	27	6	1.1	0.1	0.4	3.1
Shallots (18g)	13	3	0.5	0	0.6	2.2
Egg (50g)	72	0.4	6.3	4.8	0	71
Tapioca (60g)	200	52	0	0	4	0
Ice cubes (80g)	174	70	0	0	0	0
Salt (1.25g)	0	0	0	0	0	484
Baking powder (1.25g)	0	0	0	0	0	125
TOTAL	894.1	135	63	22.9	4	907.6

4.2.3 Nutrition Label

Nutrition Facts	
Portion Size	5 pcs
<hr/>	
Amount Per Portion	446
Calories	
<hr/>	
	% Daily Value *
Total Fat 11g	14 %
Saturated Fat 4.3g **	22 %
Cholesterol 209mg **	70 %
Sodium 454mg	20 %
Total Carbohydrate 67g	24 %
Dietary Fiber 2.7g **	10 %
Sugar 0.9g **	
Protein 31g	62 %
<hr/>	
Vitamin D 0.7mcg **	4 %
Calcium 84mg **	6 %
Iron 4.7mg **	26 %
Potassium 516mg **	11 %
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* 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 label of the meatball

4.3 Food Safety and Packaging

4.3.1 Processing and Storage Temperature

There are a few process that is being used in the making of this meatballs, such as grounding the meat while giving some herbs and spices to give it taste, after the grounding process we have to mix it well so there are no clumps in the mixture, after that then we can form it into a meatball using our hand, and then the ones that is already shaped into a ball then getting boiled until its cooked, after that we can start the packaging process by putting it in the plastic and get it vacuum

Frozen meatballs should typically be kept at 0°F (-18°C) or lower. The meatball quality and safety are maintained throughout storage at this temperature because it prevents bacterial growth. Additionally, it's critical to label the container with the date of freezing in order to keep track of the storage period and store the meatballs in an airtight container or freezer bag to prevent freezer burn.

4.3.2 Shelf Life

The shelf life of frozen meatballs can vary depending on whether they are cooked or raw, as well as how they are stored. For at least two to three months, cooked meatballs can be kept in the freezer without any problems. They can be maintained frozen for roughly six to twelve months, though, if properly stored in an airtight container. The meatballs may start to lose some of their quality after 3 to 4 months, but they should still be safe to consume. Meatballs that are raw and frozen typically keep for at least 3 to 4 months in the freezer. They can be frozen for 6 to 12 months while still preserving their freshness, texture, and flavor if handled properly and maintained in an airtight container. It's crucial to remember that these timelines are only general recommendations, and the quality of the meatballs may change according on things like storage conditions and how well they were before freezing. Before consuming frozen meatballs that have been kept for a long time, it's always a good

idea to look for any signs of freezer burn or spoiling. Additionally, cooked meatballs can be kept for three to four days in the refrigerator after being thawed. Overall, it is advised to eat frozen meatballs within the advised window of time for the optimum flavor and quality.

4.3.3 Product Packaging

The packaging for these meatballs should be sustainable and able to protect the meatballs from freezer burn and other forms of harm, as well as be able to hold up for an extended period of time. The meatballs are packaged in vacuum sealed plastic because vacuum sealed plastic is a sturdy, moisture-resistant material that can also be tightly sealed to prevent freezer burn.



Figure 4. 2 example of vacuum tight plastic seal



Figure 4. 3 Label

4.4 Financial Aspects

4.4.1 Product Cost

Product cost is calculated based on the total of all cost per month. The costs consist of raw material cost, packaging cost, and utility cost. The raw material cost is, is counted as 20 portion per day, the working day is 22 days per month

1. Start-Up Capital

Table 4. 3 Start-Up Capital

Tools and Equipment	Quantity	Price (/unit)	Sub Total
Blender	1	Rp. 650.000,00	Rp. 650.000,00
Bowl	5	Rp. 30.000,00	Rp. 150.000,00
Pot	1	Rp. 350.000,00	Rp. 350.000,00
Spoon	4	Rp. 10.000,00	Rp. 40.000,00

Strainer	1	Rp. 30.000,00	Rp. 30.000,00
TOTAL			Rp.1.220.000,00

2. Packaging Cost

Table 4. 4 Packaging Cost

Packaging	Quantity	Price (/unit)	Sub Total
Vacuum plastic	20	Rp.1.400,00	Rp. 28.000,00
Sticker Logo	20	Rp. 700,00	Rp. 14.000,00
TOTAL (/day)			Rp. 42.600,00
TOTAL (/month)			Rp. 924.000,00

3. Utility Cost

Table 4. 5 Utility Cost

Facility	Quantity	Price (/unit)	Sub Total
Water	5 m ³	Rp 2.100,00/ m ³	Rp. 10.500,00
Gas	350 gr	Rp. 188.000,00/3 Kg	Rp. 21.933,00
Electricity	750 watt	Rp 1.352 / kwh	Rp. 1.014,20
TOTAL (/day)			Rp. 33.447,20
TOTAL (/month)			Rp. 735.838,40

4. Raw Material Cost

Table 4. 6 Raw Material Cost

Ingredients	Quantity	Price (/unit)	Sub Total
Duck meat	6000 gr	Rp 50.000,00 /500g	Rp. 1.608.000
Pepper	25 gr	Rp. 50.000,00/46g	Rp. 27.173,00
Garlic	360 gr	Rp. 37.000,00/ kg	Rp. 13.320,00

Shallots	360 gr	Rp. 15.300,00/kg	Rp.	5.508,00
Egg	1000gr	Rp. 20.00,00/kg	Rp.	20.000,00
Tapioca	1200gr	Rp. 7.000,00/500g	Rp.	16.800,00
Ice cube	1600gr	Rp. 3.000,00/kg	Rp.	4.800,00
Salt	25gr	Rp. 7.700,00/500g	Rp.	385,00
Baking powder	25gr	Rp. 12.400,00/45g	Rp.	6.888,00
TOTAL (/Day)			Rp.	1,702,874,00
TOTAL (/Month)			Rp.	37,463,228,00

5. Total cost

Variable Cost = Raw Material, Packaging, Utility Cost

Total Cost (/month) = Raw Material + Packaging + Utility
= Rp. 37,463,228,00 + Rp. 924.000,00+ Rp. 735.838,40
= Rp. 39.123.066,00

4.4.2 Selling Price

Product Price = $\frac{\text{Total Cost (/month)}}{\text{Total Product Units (/month)}}$
= $\frac{\text{Rp. 39.123.066,00}}{440}$
= Rp. 88.916,05
= Rp. 90.000,00
Product Selling Price = Product Price + (product price × profit percentage)
= Rp. 90.000+ (Rp90.000× 50%)
= Rp. 90.000+ Rp. 45.000
= Rp 58.500 / packaging
= Rp.135.000,00/ packaging