

CHAPTER IV

RESULT AND DISCUSSION

4.1 Product Result

Edamame spread is a product made from edamame beans which are processed into a soft texture and rich in taste. Edamame, which is a type of legume that is popular and rich in nutrients, has the potential to be used as a base for a delicious and nutritious spread (Naslul Anam, Fiska Bitu Faraza, Haning Basbayanti, 2020). In this discussion, we will explore the results of making edamame jam and discuss some of its benefits and potential uses in various dishes. Edamame spread results in a product that has a rich, delicious, and slightly nutty taste. The process of making edamame jam involves grinding the edamame beans until smooth, and sometimes it is mixed with additional ingredients such as vegetable oil, herbs or spices according to taste but here I add some ingredients such as honey, tropicana sugar and also lemon. The result is jam that has a soft texture and is rich in the taste of fresh edamame nuts (Naslul Anam, Fiska Bitu Faraza, Haning Basbayanti, 2020).

In order to explore the delicacy and benefits of edamame jam, further research can be carried out to develop new recipes, combine them with other ingredients, or explore their potential in the food industry. Through experimentation and creativity, edamame jam can provide a variety of interesting culinary innovations as well as a healthy alternative for those seeking variety in their diet. In conclusion, edamame jam is a delicious and nutritious product that can be produced from edamame beans which are processed into a soft texture and rich taste. In this discussion, I explore the health benefits of edamame jam and also discuss its potential use in a variety of dishes. Edamame jam not only provides a taste pleasure, but also makes a healthy and varied alternative for individuals with special dietary requirements (Yuli Wibowo, Winda Amilia, Dyah Rizki Karismasari). With further

exploration, edamame jam can continue to captivate foodies with its unique delicacy .

4.2 Nutrition Fact

4.2.1 Nutrition Table

The nutritional value of edamame is as follows

Table 4. 1 Nutrition Value Of Edamame per 100 g

Calorie (kcal)	106
Protein (g)	10,59
Fat (g)	4,71
Carbohydrate	8,24
Fiber	4,7
Sugar	2,35

Source : Food Data Central, 2020

Edamame is a source of protein, carbohydrates, fiber, amino acids, bioactive peptides, omega-3 fatty acids, and other micronutrients such as iron, folic acid, magnesium, as well as phytochemical components, namely isoflavones (0.1-3.0%), sterols. (0.23-0.46%) and saponins (0.17-6.16%) which can reduce the risk of non-communicable diseases such as diabetes, hypertension, hypercholesterolemia, heart disease and stroke (Nurul Yasmina Hilmianti, 2022).

Table 4. 2 Nutritional Value Of Ingredients used in The Recipe for Edamame Spread

Ingredient	Calories (Kcal)	Carbohy drate (g)	Protein (g)	Fat (g)	Sugar (g)	Fiber (g)	Sodium
Edamame (300 g)	318	24,72	31,77	14,13	7,05	14,1	
Honey (20 g)	70	16			9,00		
Tropicana sugar (15 g)	30	12					
Water (80 ml)							1
Lemon Juice (5 g)	1	0,47	0,06	0,02	0,12	0,1	
Lemon Zest (3 g)	11,84	1,71	0,52	0,39	0,52	0,13	5,2
Corn Syrup (130 g)	559	137,6			51,6		172
Total	989,84	192,5	32,35	14,54	68,29	14,33	178,2

4.2.2 Nutrition Label

Nutrition Facts	
25 servings per container	
Serving size	(10g)
Amount Per Serving	
Calories	35
% Daily Value*	
Total Fat 0.5g	1%
Saturated Fat 0g	0%
Trans Fat 0g	
Cholesterol 0mg	0%
Sodium 0mg	0%
Total Carbohydrate 6g	2%
Dietary Fiber <1g	2%
Total Sugars 6g	
Includes 5g Added Sugars	10%
Protein 1g	
Vitamin D 0mcg	0%
Calcium 10mg	0%
Iron 0.3mg	2%
Potassium 50mg	2%
* The % Daily Value (DV) tells you how much a nutrient in a serving of food contributes to a daily diet. 2,000 calories a day is used for general nutrition advice.	

Figure 4. 1 Nutrition Label

4.3 Food Safety and Packaging

4.3.1 Processing and Storage Temperature

so that edamame can be consumed properly and also better, of course storage is the most important thing. There are a few tips on storing edamame, knowing the relationship between temperature and storage time on the quality characteristics of edamame powder milk using a Completely Randomized Factorial Design with 2 factors, namely the storage temperature factor (35° C, 45°C, and 55°C) and storage time (days 0, 7, 14, 21, 28, and 35) (Zhafirah Catur Setyani, Tri Dewanti Widyaningsih, Dego Yusa Ali, 2022)

Store in the refrigerator After you buy edamame, store the unpeeled edamame pods in a plastic bag or airtight container. Place them in the coldest part of the refrigerator, usually on the top shelf. The cold temperature will help maintain its durability and quality. Do not wash or peel before storing. This will help retain natural moisture and prevent unwanted bacterial growth. It is advisable to consume Edamame within 2-3 days of purchase to get the best taste. The longer it is stored, the less quality and delicious it will be (Amalia Adinugraha Arisakti, Dr. Ir. Nursigit Bintoro, M.Sc. 2021). Before consuming it, wash the edamame with clean water. Then, blanch them in boiling water for about 5-7 minutes or until the pods are tender. You can also add a little salt to the cooking water for extra flavor. Peel and enjoy: After the edamame is boiled, drain and let it cool slightly. Then, peel the skin of the pods and the edamame is ready to be enjoyed. You can eat it as a healthy snack, add it to salads, or use it as an ingredient in other dishes (Dhifa Ferzia, 2020).

4.3.2 Self Life

To store the edamame spread itself, there are several ways to use an airtight container or a glass container with a tight-fitting lid. Make sure no air gets into the container, as air can affect the taste and shelf life of the edamame. Store in the refrigerator: After you transfer the edamame spread to an airtight container, store the container in the fridge or freezer. The low temperature will help slow down the growth of bacteria and keep the food intact. Consume for a certain time: Edamame spread generally has a limited shelf life. It is best consumed within 2-3 days after being stored in the refrigerator. If you see or smell signs of discoloration, an unpleasant odor, or mold growth, you should not consume it (Ahmad Rizki Alfian, 2017)

4.3.3 Product Packaging

The definition of packaging / packaging in general is the outermost part that wraps a food product, drink or other material to protect the product from damage caused by air, weather, collisions and others. While packaging is a method or treatment of security for a product. (Siswanto, 2018).

Edamame spread is a spread that is eaten anytime and for the durability of the edamame itself it does not last long, therefore this product itself is more suitable for using plastic packaging. As for the benefits of this plastic packaging for this edamame spread, such as plastic packaging, it can protect the edamame spread from contamination and damage during the process shipping and storage. Plastic can prevent the entry of air, moisture and bacteria which can affect product quality. (Naslul Anam, Fiska Bitu Faraza, Haning Hasbiyati, 2020). To reduce this risk, it is recommended to avoid using single-use plastic packaging to serve or store edamame. It is better to choose safer alternatives, such as paper packaging or packaging made from

recyclable or other environmentally friendly materials. Also, if possible, store edamame in an airtight container in the refrigerator or use a water-resistant, BPA-free food bag.



Figure 4. 2 Packaging



Figure 4. 3 Logo



Figure 4. 4 Label

4.4 Financial Aspects

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

Product Cost is calculated based on the total of all cost per month. The Cost consist of Labour cost, Raw material cost, Packaging cost, and Utility cost. The labour cost is considered based on monthly working days, which are 25 days per month. As for raw material, the quantity of raw material is counted as 8 recipes per day or 200 recipes per month, which are 8 portion per day or 200 portions per month

1. Start-Up Capital

Table 4. 3 Start-Up Capital

Tools and Equipment	Quantity	Price (/unit)	Sub Total
Stove	1	Rp 450,000	Rp 450,000
Sauce Pan	2	Rp 200,000	Rp 200,000
Colander	2	Rp 15,000	Rp 30,000
Digital Scale	1	Rp 430,000	Rp 430,000
Blender	1	Rp 1,280,000	Rp 1,280,000
Gastronom	5	Rp 60,000	Rp 300,000
Rubber Spatula	2	Rp 10,000	Rp 20,000
Spoon	5	Rp 2,000	Rp 10,000
TOTAL			Rp 2,720,000

2. Labour Cost

Table 4. 4 Labour Cost

Occupation	Personnel	Salary (/month)	Sub Total
Cook Helper	2	Rp 2,500,000	Rp 5,000,000
Total			Rp 5,000,000

3. Packaging Cost

Table 4. 5 Packaging Cost

Packaging	Quantity	Price (/unit)	Sub Total
Jar Fox	20	Rp 3,000 (/1 pcs)	Rp 60,000
HDPE Plastic	20 pcs	Rp 35,000 (/50 pcs)	Rp 14,000
TOTAL (/day)			Rp 74,000
TOTAL (/month)			Rp 1,850,000

4. Utility Cost

Table 4. 6 Utility Cost

Facility	Quantity	Price (/unit)	Sub Total
Water	1000 L	Rp 2,800 (/m3)	Rp 2,800
Electricity	2 kwh	Rp 1,500 (/kwh)	Rp 3,000
Gas	240 g	Rp 20,000 (/3kg)	Rp 1,600
Total (/ day)			Rp 7,400
Total (/month)			Rp 185,000

5. Raw Material

Table 4. 7 Raw Material Cost

Raw Materials	Quantity	Price (/unit)	Sub Total
Edamame	2,4 kg	Rp 46,000 (/ 1kg)	Rp 110,000
Honey	240 ml	Rp 20,000 (/150g)	Rp 32,000
Tropicana Sugar	120 g	Rp 100,000 (/250 g)	Rp 48,000
Lemon	480 g	Rp 10,000 (/100 g)	Rp 48,000
Water	640 ml	Rp 4,000 (/250 ml)	Rp 10,240
Corn syrup	1040 ml	Rp 120,000 (/ 1,2 kg)	Rp 104.000
TOTAL (/day)			Rp 352,240
TOTAL (/month)			Rp 8,806,000

6. Rent Cost

Table 4. 8 Rent Cost

Facility	Size	Price	Sub Total
Land	15 m x 5 m	Rp 2,000,000	Rp 2,000,000
Building	10 m x 5m	(/month)	
TOTAL (/month)			Rp 2,000,000

7 . Total Cost

Fixed Cost = Labour Cost and Rent Cost

Variable Cost = Raw material Cost, Packaging Cost, And Utility Cost

$$\begin{aligned}
\text{Total Cost (/month)} &= \text{Labour} + \text{Raw Material} + \text{Packaging} + \\
&\quad \text{Utility} + \text{Rent Cost} \\
&= \text{Rp } 5,000,000 + \text{Rp } 8,806,000 + \\
&\quad \text{Rp } 1,850,000 + \text{Rp } 185,000 + \\
&\quad \text{Rp } 2,000,000 \\
&= \mathbf{\text{Rp } 17,841,000}
\end{aligned}$$

4.4.2 Selling Price

$$\begin{aligned}
\text{Product Price} &= \frac{\text{Total Cost (/month)}}{\text{Total Product Units (/month)}} \\
&= \frac{\text{Rp } 17,841,000}{200 \text{ portions}} \\
&= \text{Rp } 89,205 / \text{Portion} \\
\text{Product Selling Price} &= \text{Product Price} + (\text{Product Price} \times \\
&\quad \text{Profit Percentage}) \\
&= \text{Rp } 25,142.5 + (\text{Rp } 25,142.5 \times 50\%) \\
&= \text{Rp } 25,142.5 + 12,571.25 \\
&= \text{Rp } 37,713.75 \approx \text{Rp } 38,000
\end{aligned}$$