

## CHAPTER II

### PRODUCT OVERVIEW

#### 2.1 Description of The Ingredients to Be Used

##### 2.1.1 Miana Leaves



Figure 1. Miana Leaves

*Coleus scutellarioides (L.) Benth* or as known as Miana plant macroscopically is a simple-leaved, purple-black in color with a green line on each side (Salimi, 2021). The leaves taste quite bitter, like papaya leaves. However, after being washed with salt water and kneaded so the saponins are reduced, the bitter taste does not feel thick. Miana leaves were used as the vegetable component for the pie in this project. For every 8 small pies, approximately 16 leaves are used. Picture of miana leaves is given in figure 1.

### 2.1.2 Soy Textured Vegetable Protein (TVP)



Figure 2. Soy Texturized Vegetable Protein (TVP)

Soy Textured Vegetable Protein (TVP) is a high-fiber, high-protein meat substitute made from soy flour. This product is made by isolating the soy protein from other components found in whole soybeans. Defatted soy protein is compressed into granules or chunks, and rehydrated before cooking. One cup of dry protein equals approximately 3 cups of rehydrated crumbly soy that resembles lean ground beef (Anderson, 2021; Decker, 2013). In this project, soy TVP is used as a substitute for meatballs from pie. One portion of meatball analogue (for approximately 8 mini pies) require 60 grams of rehydrated soy TVP. Picture of Soy TVP is given in figure 2.

### 2.1.3 Shiitake Mushroom Stalk



Figure 3. Shiitake Mushroom Stalk

Shiitake Mushroom is an edible mushroom used frequently in Asian cuisine. Shiitake Mushroom have an earthy flavor, chewy and a source of fiber hence the meaty texture made them been used as meat-like product (Hong, 2020; Gourmetsleuth, n.d.). In the market, shiitake mushrooms are usually sold both fresh and dried. Three ounces (85.05 g) of dried mushrooms equals 1 pound (453.59 g) of fresh mushrooms (Huffstetler, 2020). They are also high in protein, therefore are also used as a substitute for the meatballs with soy TVP. One portion of meatball analogue (for approximately 8 mini pies) require 25 grams of shiitake mushroom stalk. Picture of shiitake mushroom stalk is given in figure 3.

### 2.1.4 Other Ingredients

Other ingredients for making protein substitute for meatballs consist of 2 garlics, half an egg white, 7 grams of cornstarch, 17 grams of all-purpose flour, 1 teaspoon of lemon juice, 18 grams of oil, 6.5 grams of salt and sugar, 4 grams of powdered mushrooms. Enough water and pepper to taste. For sauteing analog meatballs, cornstarch, chili powder, oregano and lemon juice are used.

Other ingredients for making pie crust consist of 175 grams of low protein flour, 25 grams of sugar, 85 grams of margarine, 1 egg yolk,

40 grams of water, 2 grams of salt. This recipe makes 8 small pies. For stir fry miana leaves (8 small pie portions), the ingredients consist of 3-4 shallots, salt, sugar, and mushroom powder to taste.

Other ingredients for the sauce in the pie consist of 115 ml of liquid full cream milk, 1 egg, 25 grams of melted margarine, 50 grams of quickmelt cheddar. This recipe makes enough for 16 small pie servings or more. For the topping of the pie, there are tomatoes, scallions, chilli powder, oregano, and parmesan cheese.

## **2.2 The Utensil Used During the Processing**

### **2.2.1 Food Chopper**



Figure 4. Food Chopper

Picture of food chopper is given in figure 4. Food chopper is a compact kitchen tool that usually has a smaller bowl containing a multi-purpose blade. Food choppers varied from styles and sizes, but they all have a similar function, that is to chop, coarse or fine. For a coarser chop for dishes like stews, chop or pulse for a short amount of time. To get finely chopped results, pulse or process longer.

### 2.2.2 Food Steamer



Figure 5. Food Steamer

Picture of food steamer is given in figure 5. Food steamer is kitchen appliance used to cook or prepare various foods with steam heat. The steamer contains an insert that fits either into or on the top of a saucepan that is filled with hot water. The food to be cook is placed in the insert. Then, the perforated base of the insert allows the steam to surround and heat the food.

### 2.2.3 Digital Kitchen Scale



Figure 6. Digital Kitchen Scale

Picture of digital kitchen scale is given in figure 6. Digital scale is a high quality measuring device that reads and displays the weight of an object. It is more precise than other kinds of scales and usually used to measure the weight or mass of an ingredient, whether it is in pounds, grams, fluid ounces, or milliliters. In terms of size, digital kitchen scales is small and also lightweight.

#### 2.2.4 Sauce Pan and Frying Pan



Figure 7. Sauce Pan



Figure 8. Frying Pan

Picture of sauce pan and frying pan are given in figure 7 and figure 8. Generally, cooking pans have many types and their respective uses. Saucepan is deep stovetop pan with long handle, usually used to cook sauce, stew and boiling something liquid. A saucepan can come in many varieties, such as stainless steel, cast iron, copper, nonstick, and many others. While, frying pan is a flat-bottomed pan, the size is about eight to 12 inches in diameter, with low outward flaring sides and a long handle. Frying pan are usually made out of stainless steel or aluminum and it is used for frying, searing, and browning foods.

### 2.2.5 Cooking Spatula



Figure 9. Cooking Spatula

Picture of cooking spatula is given in figure 9. Cooking spatula is kitchen tool that is broad, flat, flexible blade used to mix, spread, lift and flip food. Cooking spatula material varies from stainless, aluminum, to wood and others.

### 2.2.6 Oven



Figure 10. Oven

Picture of cooking spatula is given in figure 10. Oven is a kitchen equipment that exposes materials to a hot environment in a controlled way. Oven is usually used for baking, defrost, roasting, boiling and many more. In ovens, the food is cooked faster and evenly than the conventional methods. Oven uses radiant heat generated by various sources to provide heat inside.

### 2.2.7 Chef Knife and Cutting Board



Figure 11. Chef Knife

Picture of chef knife is given in figure 11. Chef knife is a multi-purpose kitchen knife, 8 inches long and made from a combination of stainless steel and carbon steel. The function is to mincing, slicing, and chopping vegetables, slicing meat, and disjoints large cuts.



Figure 12. Cutting Board

Picture of cutting board is given in figure 12. A cutting board is a piece of hard material where different foods can be cut by knife. They have variety of materials, including wood, vinyl or glass. In term of size, small, medium and large cutting boards are available for easy storage.



### 2.2.8 Mixing Bowl



Figure 13. Mixing Bowl

Picture of mixing bowl is given in figure 13. Mixing bowls is round bowl that have varying sizes and used for combining food ingredients when preparing recipes. Mixing bowls can be made of plastic, ceramic, glass, copper, and stainless steel that range in size from 4 inches to over 16".

### 2.3 Approved Recipe

Recipe Name : Miana & Analogue Meatball Savory Pie  
Yield : ±8 pcs of mini pie  
Main Ingredients : Miana leaves, Soy textured vegetable protein,  
Shiitake mushrooms

Ingredients :

1. Analogue Meatball
  - Main: 60gr soy textured vegetable protein (rehydrated), 25 gr dried shiitake mushroom stalks
  - Flour: 5gr all-purpose flour, 3,5gr cornstarch flour
  - Liquid: 14gr water, 9gr oil, 10gr white egg
  - Others: ½ tsp lemon juice, 7,5gr garlic
  - Seasoning: 2gr totole, 4gr salt, 4gr sugar, ¼ tsp pepper

2. Mini Savory Pie Filling
- 75gr miana leaves (rub with salt, wash and drain),
  - 2pcs garlic, 3 pcs shallot
  - Analogue meatball
  - 1pc tomato (diced)
  - 4-5 pcs spring onion (chopped)
- Liquid mix: 115mL milk, 1 whole egg, 25gr melted butter/margarine, 50gr cheddar cheese (quickmelt)
  - Chili flakes and parmesan cheese for topping. Salt, totole and pepper for seasoning

Method :

- Analogue Meatball
  1. Rehydrated soy TVP and wash it for 3 times. Soak dried shiitake stalks in water for 2 nights, then flatten it until the fiber is visible. Mix all the ingredients in the blender. Shape it like a mini meatball, then steam for 10 minutes.
- Mini Savory Pie
  1. Mix all the crust ingredients, put on the pie mold and bake for 15 minutes in 180c
  2. Sautee the meatball in a pan, drizzle some lemon juice, give a pinch of chili flakes and oregano. To minimize the bitter taste, rub miana leaves with salt and boil for 5 minutes. Sautee miana leaves with garlic and shallot until dry, give some seasoning.
  3. Mix milk, whole egg, melted butter, cheddar cheese, a pinch of chili flakes and oregano. Arrange the analogue meatball, miana leaves, and diced tomato on the pie crust. Pour the liquid mix. Topped some parmesan cheese, spring onion, chili flakes.
  4. Bake in 180c for 15 minutes

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## 2.4 Revised Recipe

Recipe Name : Miana Vegetarian Pie

Yield : ±8 pcs of mini pie

Main Ingredients : Miana leaves, Soy textured vegetable protein, Shiitake mushroom stalks

Ingredients :

1. Analogue Meatball
  - Main: 20gr soy textured vegetable protein, 4gr dried shiitake mushroom stalks
  - Flour: 5gr all-purpose flour, 3,5gr cornstarch flour
  - Liquid: 14gr water, 9gr canola oil, 10gr white egg
  - Others: ½ tsp lemon juice, 7,5gr garlic
  - Seasoning: 2gr totole, 4gr salt, 4gr sugar, ¼ tsp pepper
2. Mini Savory Pie Filling
  - 75gr miana leaves (rub with salt, wash and drain), 2pcs garlic, 3 pcs shallot
  - Analogue meatball
  - 1pc tomato (diced)
  - 4-5 pcs spring onion (chopped)
  - Liquid mix: 58mL milk, ½ whole egg, 13gr melted butter/margarine, 25gr cheddar cheese (spready)
  - Chili flakes and parmesan cheese for topping. Salt, totole and pepper for seasoning

Method :

- Analogue Meatball
  1. Rehydrated soy TVP and wash it for 3 times. Soak dried shiitake stalks in water for 2 nights, then flatten it until the fiber is visible. Mix all the ingredients in the blender. Shape it like a mini meatball, then steam for 10 minutes.
- Mini Savory Pie
  1. Mix all the crust ingredients, put on the pie mold and bake for 10 minutes in 180c with baking paper filled with rice, then 5 minutes without it.
  2. Sautee the meatball in a pan, drizzle some lemon juice, give a pinch of chili flakes and oregano. To minimize the bitter taste, rub miana leaves with salt and boil for 5 minutes. Sautee miana leaves with garlic and shallot until dry, give some seasoning.

3. Mix milk, whole egg, melted butter, cheddar cheese, a pinch of chili flakes and oregano. Arrange the analogue meatball, miana leaves, and diced tomato on the pie crust. Pour the liquid mix. Topped some parmesan cheese, spring onion, chili flakes.
4. Bake in 180c for 15 minutes

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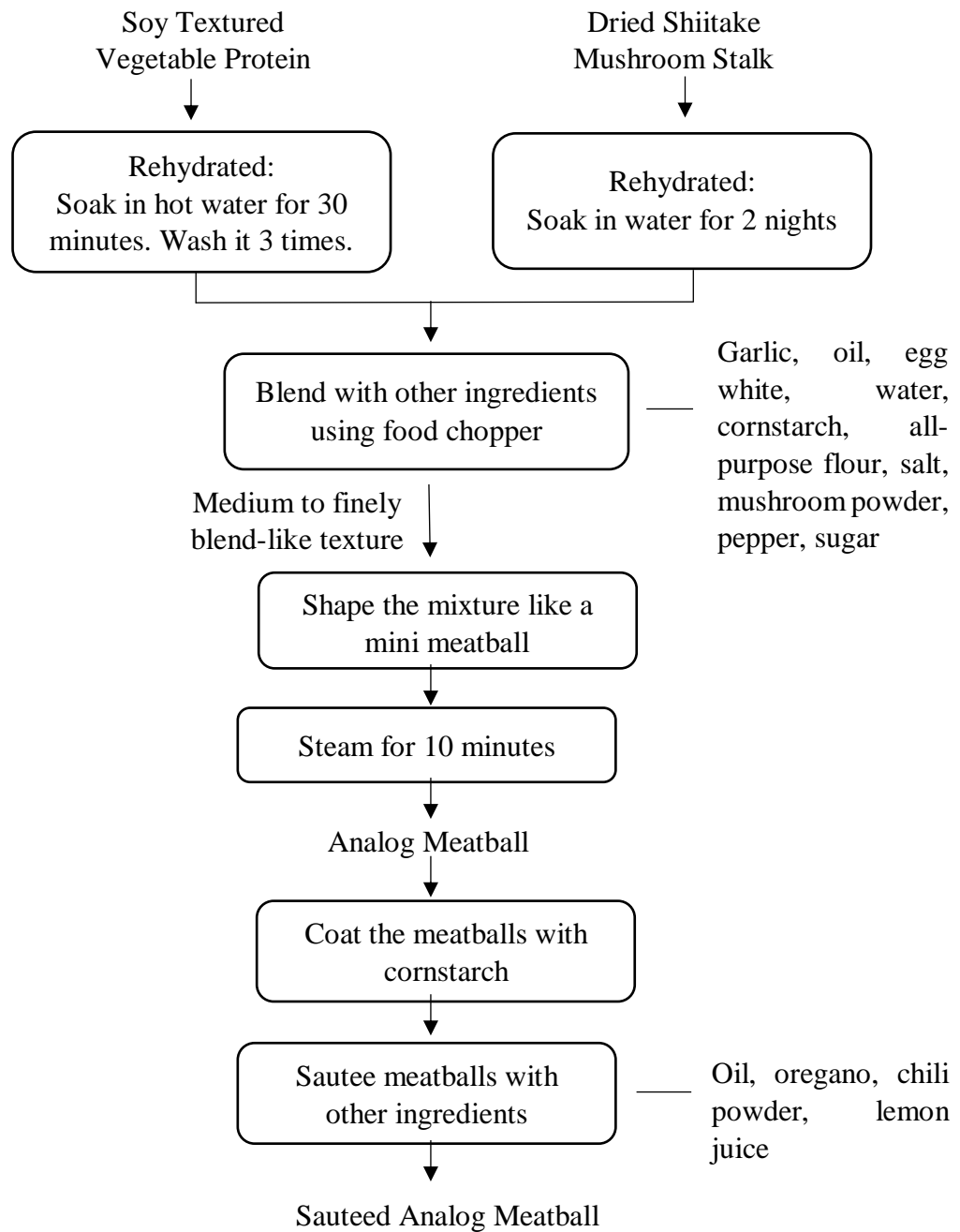
Advisor Name : Novi Indah Permata Sari, ST., M.Sc.

### **2.5 Revised Recipe Explanation**

There was a change in the total weight of soy TVP and shiitake mushroom stems because the weight of wet and dry ingredients are different. Dried shiitake stalk and Soy TVP before rehydrated are a lot lighter than the fresh one. Weight changes in this recipe are made to make it easier to understand the recipe along with the costs involved. The recipe for the liquid mix of the pie is also reduced by half to make up for a portion of 8 small pies. Use of canola oil instead of regular cooking oil to reduce the saturated fat content in the pie. The advisor name is also changed.

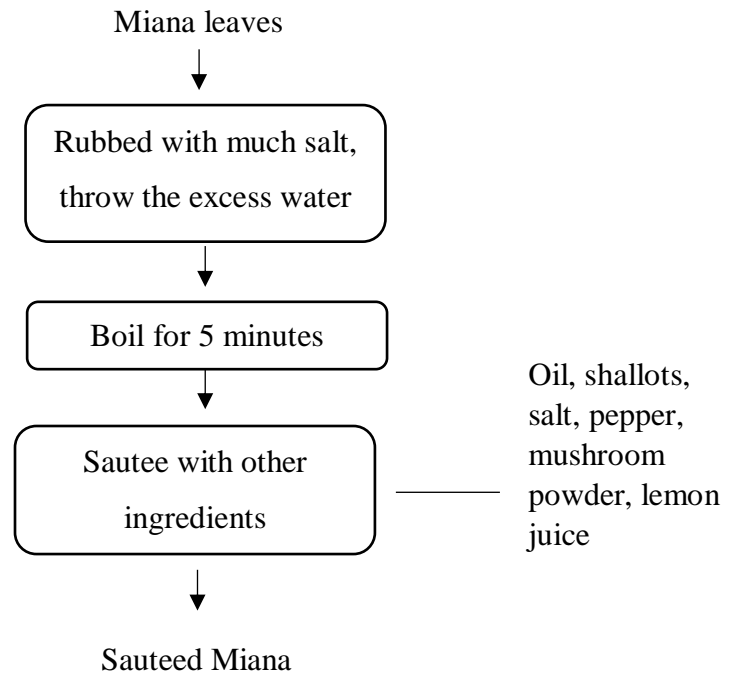
## 2.6 Product Processing Sequence

### 2.6.1 Flowchart of Processing Meatball Analog



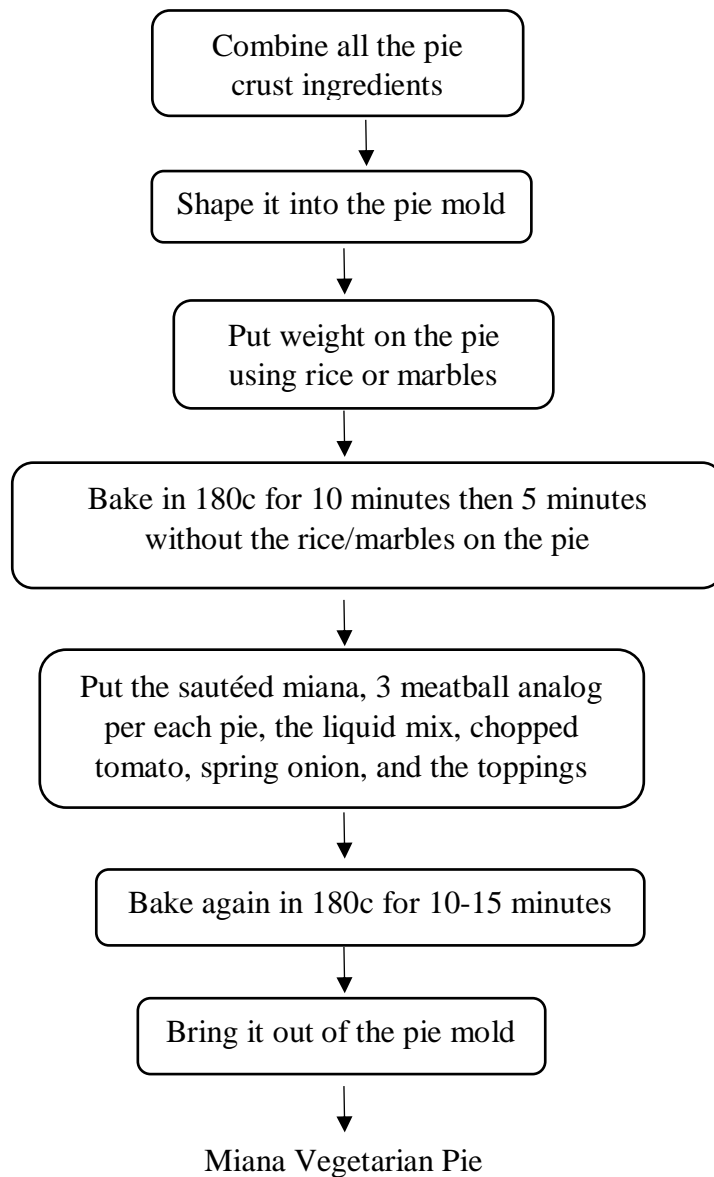
**Figure 14.** Flowchart of Processing Analog Meatball

## 2.6.2 Flowchart of Processing Sauteed Miana



**Figure 15.** Flowchart of Processing Sauteed Miana

### 2.6.3 Flowchart of Processing Miana Vegetarian Pie



**Figure 16.** Flowchart of Processing Miana Vegetarian Pie

## 2.7 Product Processing Method

1.



Figure 17. Miana leaves rubbed with salt

Rub miana leaves with salt until the extract from the leaves comes out. Wash the leaves and drain the excess water.

2.



Figure 18. Miana leaves boiled for 5 minutes

Boil miana leaves for 5 minutes, put in cold water.



3.



Figure 19. Sauteed Miana

Sautee miana with shallot and garlic. Season with salt, mushroom powder, sugar, pepper, and lemon juice. Sauteed Miana is used as a pie component.

4.



Figure 20. Mushroom stalk and Soy TVP soaked in water

For protein component of the pie, soak shiitake mushroom stalk in water for 2 nights and Soy TVP in hot water for 30 minutes.

5.



Figure 21. Analog meatball ingredients

Blend Soy TVP and Shiitake mushroom stalks with garlic, oil, water and egg whites in food chopper.

6.



Figure 22. All of analog meatball ingredients mixed in

After blended nicely, put all-purpose flour, cornstarch, and the seasoning to the mixed ingredients.

7.



Figure 23. Analog meatball steamed in food steamer

Shape the meatball mixture into a small round shape. Steam in the food steamer for 10 minutes.

8.



Figure 24. Sautéed analog meatball

Sautee the meatball with oregano, chili powder, pepper, and lemon juice in frying pan. Sautéed analog meatball is used as a pie component.

9.



a)



b)

Figure 25. a) Liquid mix for the pie. b) The pies baked in oven

Bake the pie shell half-baked, then assemble all the pie component inside which is sautéed analog meatball, sautéed miana, 3 tbsp of liquid mix, chopped tomato, sprinkle of spring onion, oregano, chili powder, and parmesan cheese. Bake at 180c for 10-15 minutes.

10.



Figure 26. Miana Vegetarian Pie

Finally, Miana Vegetarian Pie is ready.