

CHAPTER II

LITERATURE REVIEW

2.1 Ingredients Review

2.1.1 Banana Stems

The use of banana stems can be done with a little touch of innovation which will create products that have high economic selling value for the community. Banana stems can strengthen the nutritional content because the ingredient has quite high nutritional content, especially fiber. Apart from that, banana stems are easy to obtain and have no selling value or are free, and can maximize the processing of local food ingredients (Nurchayani, 2016). Because of these problems, the idea arose to make optimal use of the production of banana stems, where up to now banana stems have often been ignored and thrown away. The solution that can be taken from this problem is to use banana stems by processing them into food or snacks (Ningsih & Hiden, 2021). To make vegan odeng, use Kepok banana stems because Ambon banana stems can be bitter. Apart from that, use banana stems only from the base to half the height of the banana tree. The banana stems chosen should be the inner part because it is still young.



Figure 2.1 Banana Stems

Banana stems have complete nutritional content. The nutrients contained in banana stems are tannins, sapomin, flavonoids, serotonin, neropinephrine, hydroxytryptamine, dopamine, vitamin A, vitamin B, vitamin C and fiber. Apart from that, banana stems have functions as medicine, increasing immunity, and as an antiseptic (Rakhmawati, 2019).

The following is the composition of the nutritional content in 100 grams of banana stems:

Table 2.0.1 Nutritional Content of Banana Stems in Raw Condition

No.	Nutrient Content	Amount
1.	Calories (g)	43.00
2.	Proteins (g)	0.36
3.	Fat (g)	0.00
4.	Carbohydrate (g)	11.60
5.	Calcium (mg)	15.00
6.	Phosphor (mg)	60.00
7.	Iron (mg)	0.50
8.	Vitamin A (SI)	0.00
9.	Vitamin B1 (mg)	0.01
10.	Vitamin C (mg)	12.00
11.	Water (g)	86.00
12.	Edible part (%)	100.00

Source: Direktorat Gizi, Depkes RI (1981) in Rakhmawati (2019)

There are many benefits of banana stems for human health, namely they can treat and cure various types of diseases, for example to detoxify the digestive system, reduce weight, control cholesterol and blood pressure, cure stomach acid, stabilize blood sugar, and there are many benefits of banana stems for health. Again (Sagajoka et al., 2021).

Meanwhile, in the world of health, banana stems are very useful, including as antioxidants and antidiabetics (Saraswati et al., 2020).

2.1.2 Mung Beans Flour

The mung bean plant is a plant that belongs to the family Leguminosae and originates from India. Mung beans began to spread to various tropical Asian countries, namely Indonesia, in the early 17th century. One of the food plants that has long been cultivated traditionally in Indonesia is mung beans (Nurcahyani, 2016). Mung beans are a food crop that produces important vegetable protein and are liked by many people because they have a relatively low fat content compared to other types of beans (Nur et al., 2018). The world community has long known about mung beans (*Vigna radiata*). Mung beans are in an important consumption position and are a good source of nutrition in Indonesia. Mung beans have high protein, low saturated fat and low sodium, and contain antioxidants (Nurcahyani, 2016). Mung bean flour is a semi-finished product made from mung bean seeds and can be used in making processed products (Ponelo et al., 2022). The contents of 100 grams of mung bean flour include carbohydrate nutritional content of 286 Kcal, protein 31.5 grams, fat 14.3 grams, fiber 35.1 grams, and water content 175 mg (Nurcahyani, 2016).



Figure 2.2 Mung Bean Flour

In making mung bean flour, you need to select mung beans that are of good quality, have intact grains, no musty odor, no worms and are still

fresh. Making mung bean flour requires sorting mung beans that are of good quality. Sorting mung beans is done by adding water to the bowl containing the mung beans. This aims to make the sorting process easy because mung beans that are of poor quality or rotten will rise to the surface of the water. After carrying out the sorting process, the mung bean seeds will be washed to ensure they are clean. After that, the selected and clean mung bean seeds will go to the toasting process stage where the mung bean seeds will then be ground until fine. To obtain good mung bean flour results, a sifting process is required first. Then, mung bean flour can be used to process food (Lestari et al., 2017).

2.2 Product Review

South Korean food is increasingly popular with all levels of Indonesian society and even people around the world. Korean food is now easy to find because it is spread in hypermarkets to minimarkets. One of them is odeng which has become very famous because it often appears in several scenes in Korean dramas (Sacriwi et al., 2024). Odeng is a food or fishcake product made from ground fish that is seasoned and skewered. However, recently there has been a rapid increase in the number of vegan groups in the world (Miguel et al., 2021). A vegan has a healthy lifestyle because he does not consume meat at all. The vegan group only consumes vegetables, fruit, nuts and seeds. A person becomes vegan for several reasons, such as health reasons, environmental reasons, financial reasons, and spiritual reasons (Wicaksono & Kurniawati, 2023). In addition, a person can gain the intention to buy vegan products from the influence of friends who have shared their knowledge and experience of being vegan, as well as from a sense of concern for animal welfare (Miguel et al., 2021). Therefore, vegan odeng was made which uses banana stems as a substitute for fish so that vegan groups can consume odeng.

2.3 Process Review

2.3.1 Boiling

Boiling is a cooking technique food with boiling water (Karimah et al., 2022). In the boiling technique, liquid ingredients will be cooked to a point of 100°C (Azhari et al., 2019). In the process of making vegan odeng there is boiling technique, namely boiling the banana stem which aims to make the texture of the banana stem soft so that it is easier to mash with a fork. Boiling is commonly used to prepare vegetables throughout the world to make them soft and tasty (Mehmood & Zeb, 2020). The importance of consuming vegetables and increasing the intake of beneficial antioxidants has been realized by the public. Eating boiled vegetables is indeed more delicious to eat, but the cooking method affects the antioxidant composition and bioavailability of vegetables (Vinha et al., 2015). The stages in boiling, namely nucleate, transition, and film boiling. The sequence of boiling stages is based on the boiling temperature from low hot temperature to high hot temperature. The characteristics of boiling when boiling is just starting and water bubbles begin to appear on the surface is called nucleate boiling. Meanwhile, film boiling has the characteristic that during the boiling process it evaporates and then the heat source suddenly stops. The film boiling is a layer of steam that lies above the surface of the liquid. Transition boiling is the occurrence of instability in the boiling process due to changes in the boiling temperature between the maximum (nucleation) and minimum (film boiling) temperatures (Atmoko & Krestanto, 2017).

2.3.2 Steaming

Steaming is a cooking technique that uses heat from boiling water vapor. In terms of retention of the bioavailability of important vegetable ingredients, steaming is considered a safer cooking technique because steaming can maintain food nutrition and does not use oil (Mehmood & Zeb, 2020). The steaming technique is also used in making vegan odeng where the odeng mixture that has been smeared on tofu skin is steamed so that its shape remains neat and maintained. To steam, you need a

steamer consisting of several pans in layers. In the pan containing the cooking water, it is at the very bottom. Then on top there is a pan with holes so that water vapor can enter through the holes in the pan. In the steaming method, the food ingredients being cooked do not touch water directly so that not much nutritional content is lost (Andriana & Widyaningsih, 2023). The nutritional content of food using the steaming method can decrease, but the steaming method and the type of food being steamed determine the amount or how much the food's nutritional content decreases (Nurjanah et al., 2014). However, the steaming method makes food have a tastier and softer texture than food using the boiling method.

2.3.3 Frying

Frying is a technique for cooking food using cooking oil. Processing or frying food with lots of oil is called deep frying. Fats and oils are the same thing chemically, but they differ in melting points. The frying technique is used in making vegan odeng to give it a crispy texture and better taste. When frying vegan odeng, a temperature of 180°C is a good temperature. The temperature for frying needs to be adjusted to the type of food that will be fried (Atmoko & Krestanto, 2017). The high frying temperature changes the color and structure of food significantly. In general, high calories are produced by foods that use frying techniques. Food will release water from it and absorb fat from the oil during the frying process, resulting in an increase in the number of calories in the food. However, various age groups now consume fried foods due to their unique organoleptic properties, from texture, aroma, crunchy texture, to attractive golden color (Mehmood & Zeb, 2020).