BAB II
LITERATURE REVIEW

2.1 Bluder

Bluder is a traditional food or cake typical of Palembang, which has existed since the days of the Dutch colonial in the Palembang Sultanate. Bluder was once very popular with the people of Palembang because of its distinctive taste. The main ingredients of bluder cake are flour and yeast. This bluder cake has a unique shape which is rounded upwards Ensiklopedia (2018).

Previously Bluder Cake had a special mold named *"Cetakan Tujuh"* made of brass and then cooked using charcoal, but there were also those who made this in a rectangular mold pan to get more cakes. But now it is cooked by using the oven and it can and does not change the deliciousness of this Bluder Cake. Then along with the development of the era of cake, the bluder was only met on special days, namely on big days, and the celebration of the house in Palembang people house Amin (2019).

However, this Bluder Cake is much favored by old people, because most children and teenager today do not know what the Bluder is and what it looks like.

2.1.2 The ingredients of Bluder

There are six main ingredients used in making Bluder Cake: wheat flour, sugar, yeast, salt, margarine, and coconut milk. The explanations of the ingredients can be described as follows:

a. Wheat Flour

Wheat flour is the result of grinding wheat seeds In general, flour is used to make various kinds of foods such as cakes and bread Syarbini (2013). This has become one of the people consumed because it is considered as a substitute for carbohydrates and practice. Wheat flour contains gluten which can make the food dough thin and elastic. According to Mudjajanto and Yulianti (2004), there are three types of wheat flour;

1. High Protein Flour which has strong gluten and the protein content of this flour is consisting between 11-12%. Usually, this flour is used to make noodle and bread
2. Medium Protein flour which has medium gluten and the protein content of this flour is consisting between 10-11%. Usually, this flour is used to make noodle, bread, and household necessities.
3. Low Protein flour which has low gluten and the protein content of this flour is consisting between 8-9%. Usually, this flour is used to make cake, cookies, and cracker.

   In brief, there are three kinds of wheat flour. They are high protein flour, medium protein flour, and low protein flour. Based on three kinds of wheat above the best flour to make Bluder Cake is by using medium protein flour because it can make the dough expands well and elastic

a. Egg

According to Sudaryani (2003), egg has a high protein content and has a complete protein structure. Egg contains of protein, various vitamins, fats, thiamin, carbohydrates, calories, and minerals. Riana (2018) adds that Egg usually used for making the cake. However egg has function to make the cake has soft texture, improve the taste of cake, and binds with the other ingredients. In short, Eggs are one of the important ingredients in making a cake and bread mixture. The egg serves to improve the taste and texture of the cake.

b. Yeast

Yeast is known as baker's yeast because it has function to expand the dough. Yeast is known as baker's yeast or brewer's yeast that has function to ferment the bread or drink alcohol in wine production. Furthermore, yeast divided in three kinds of yeast, there are (Lestari, 2017):

1. Compressed yeast

   This type of yeast is made of cream mushroom and still has a wet texture. This yeast has high water content which is very easily to

damage. Therefore, the wet yeast should be stored in the refrigerator and the period of storage is approximately 8 weeks from the production.

1. Dry yeast

   This type of yeast has a drier texture than compressed yeast. Yeast is included in the semi-active type, so when the yeast will be used it should be active the yeast first by settled in the water until the yeast can be expanded. This yeast has a longer shelf life of about 2 years from the production.

2. Instant yeast

   Instant yeast is also known as fast- rising yeast because it works very fast to expand the dough. This yeast is often relied on by the bakery because it can make the dough expand quickly, especially if there is only a short time though. In short, yeast has function to ferment the bread or drink alcohol in wine production. Based on three kinds of yeast above, the best yeast to make Bluder Cake by using instant yeast, because it can expand the dough quickly.

a. Sugar

Sugar or sucrose is a carbohydrate that presents naturally in fruits and vegetables. All the natural sugar or sucrose that is added to foods is identical to sugar found in fruits and vegetables (The Sugar Association 2015). Classic recipes confirm sugar's historic role as a necessary ingredients in breads and other baked goods, cereals, sauces, salad dressings, fruit preserves and more. In making the cake sugar has some function, there are to give a sweet taste, to keep moisture and to give the color on the skin of cake. According to Inspirasi Baking (2018) states sugar is used as flavoring, in addition to having a sweet taste, sugar also functions as caramelization and gives a brownish crust on the cake. Without sugar, the cake will taste like raw, and there are no nuances such as the addition of sugar such as caramelization and the absence of a brownish color on the cake after the cake is baked.

b. Salt

Salt is usually only added in very small amounts to baked products, but it has a noticeable effect on the flavor of baked products. According to Patissiere (2012), the function of salt in making cake is giving the taste and the crunchiness of cake. Salt is also served as a deterrent to the growth of bacteria in cooking so that salt is often used as a means of making food.

a. Margarine

Margarine serve to make the cake durable, increase the nutritional value, give the aroma and make the cake tenderer and give a good taste (Aura, 2013). Margarine is an energy source with vitamin A, D, E and K. The function of margarine in the baking process is helps in aeration, softens texture, improves taste, improve quality during storage, make it not springy and give color to the surface.

b. Coconut Milk

According to Ekanayaka (2013), coconut is consumed in two main forms in Asian countries, such as grated coconut and coconut milk. In making cakes coconut milk can be used as a liquid ingredients in room temperature or hot. The used of coconut milk can replacing milk in producing bakery or pastry. The fat in every 100 ml coconut milk contains 34, 5 gram in thick coconut milk and 10 gram in coconut milk.

2.1.3 Standard Recipe of Bluder

Standard Recipe is used to measure the ingredients using a scale. The ingredients that needed are: wheat flour (high protein and medium protein), yeast, water, yolk, egg whites, milk, margarine, sugar, and salt. The standard recipe of bluder cake can be seen as follows:

Table 2. 1 Standard Recipe of Bluder Cake Cited in Sriwijaya Radio (2014)

No	Ingredients	Measure
1.	High Protein Flour	400 gr
2.	Yeast	2 tbs
3.	Water	300 ml
4.	Yolk	100gr

5.	Egg whites	30 gr
6.	Sugar	100 gr
7.	Margarine	200 gr
8.	Milk	200 ml
9.	Salt	10 gr
10.	Medium Protein Flour	150gr

2.1.4 The process of making Bluder

There are some processes of making Bluder Cake. Sriwijaya Radio (2014) stated that the process of making Bluder Cake are: the first step, mixed the high protein flour, yeast, and water. Wait until the dough expands until 30 minutes and cover it with plastic. The second steps, mixed yolk, egg whites, sugar, salt, and milk together until the ingredients blend well. After the first dough expands, mixed the dough with the second dough after that wait the dough till expands well around 30 minutes. After 30 minutes knead the dough with margarine little by little then cover the dough by using plastic and wait until 30 minutes more. The last, take the dough into several parts and weigh it around 50 gr each take into mold and wait until 10 minutes before baked. Finally, baked the dough till cooked well and the color is yellow.

2.2 Corn

Corn plants are one type of plant that belongs to the Gramina family, including in plants that produce seeds (Spermatophyta), while the seeds are covered by ovaries so that they belong to the class of closed seed plants (Angiosperms), are included in the class Monocotyledoneae, order Graminaceae and classified into the genus Zea with the scientific name Zea mays. L Rukmana (2006) cited in Kartika (2017).

Indonesia is a country rich in natural resources including agricultural resources because Indonesia is located in a fertile area. According to FAO (Food and Agriculture Organization) Indonesia is the seventh-ranked corn producing country in 2017 in the world. That way the Indonesian people are also familiar with this vegetable. Corn can be found easily in an area because it is sold either at the

market or supermarket. In addition to easy to find corn, the price is relatively cheap and can be consumed by all people from children to adults.

Corn is one type of intake that is healthy and can also be a substitute for rice. In corn it contains more protein, fiber, minerals, antioxidants, and amylose compared to rice. In addition, according to Yasin and Suarni (2011), besides being a source of carbohydrates, corn is also an important source of protein in the menu of society in Indonesia. Corn is rich in functional food components, including food fiber needed by the body, essential fatty acids, isoflavones, minerals (Ca, Mg, K, Na, P, Ca and Fe), anthocyanins, beta-carotene (provitamin A), composition of essential amino acids, and others. Furthermore, Permatahati (2017) claimed that corn as foodstuff can provide nutrition contents such as carbohydrates, fats, and protein, some vitamins, and minerals essential in large enough quantities compared with other grains.

Corn can be used as a staple food because it contains high carbohydrates. Corn has a high nutrient content, among others (dickson, 2017). In brief, the writer conclude that Indonesia is agrarian country with abundant resources. Which makes the corn is easy to find and the price is not expensive.

2.2.1 Kinds of Corn

According to Nalvakar (2018), there are 5 types of corn according to appearance and seed texture. They are:

1. Sweet corn - Zea mays saccharata.

   Corn, which tastes fresh and sweet when consumed. Sweet corn is seldom processed into feed or flour. Sweet corn gets its name because it contains more sugar than other types of corn.

2. Popcorn - Zea mays everta

   It has the characteristics of hard outer skin, wrapping a small amount of soft starch. Corn kernels will erupt if heated because of the expansion of moisture in the seeds.

3. Floury corn - Zea mays amylacea.

   One of the oldest corn varieties has soft seeds and soft starch. This flour corn is easy to grind and is used as an ingredient to make baked goods and other

foods. In general, the floury corn type is long-lived and is especially planted in the highlands of South America (Peru and Bolivia).

1. Horse tooth corn (dent corn) - Zea mays identata.
   Named horse teeth corn because the niche in the middle of the seeds when dry makes it look like a horse's teeth. This type of corn tastes bland and has a lot of flour so it is more often used for fodder, making natural corn syrup, or industrial products such as ethanol for fuel, drinks or sanitary liquids.
2. Flint corn - Zea mays indurate.
   The type of corn most planted by farmers in Java has a round shape, slippery, shiny and hard because the hard starch is found in the upper part of the seed. This type of seed is preferred by farmers because of its resistance to warehouse pests.

2.2.2 Nutrient of Corn

Meanwhile, Streit (2018) states that corn contains 134 calories, 1, 82 g fat, 4, 96 g protein, and 29 g of carbohydrates, so corn is very good to consumed by youngster to oldster, because the nutrient is very good for the health of the body. While Chevroni (2018) states that corn is a good source of vitamin C, magnesium, B vitamins, and carotenoids lutein and zeaxanthin. Vitamin C is important in cell repair, boosting immunity and has anti-aging properties, whereas, B vitamins are important in energy metabolism. Nutritional content consist of protein, fat, carbohydrates, calcium and sodium listed in the Table 2.2.

Table 2. 2 Nutrition Fact of Corn per 100 gr

Informasi Gizi

Ukuran Porsi: 100 gram (g)

	per porsi
Kilojoule	**359,824 kj**
Kalori	**86 kkal**
Lemak	1,18 g
Lemak Jenuh	0,182 g
Lemak tak Jenuh Ganda	0,559 g
Lemak tak Jenuh Tunggal	0,347 g

Kolesterol	0 mg
Protein	3,22 g
Karbohidrat	19,02 g
Serat	2,7 g
Gula	3,22 g
Sodium	15 mg
Kalium	270 mg

Source: https://www.fatsecret.co.id/kalori-gizi/umum/jagung-manis-kuning

2.2.3 The benefits of corn

According to Marcene (2017), in terms of health corn has lot of benefits for the body. Corn is rich in nutrition and low of calories. There are 13 benefits of Corn such as maintaining eye health, Prevents Diverticular Diseases, Anemia prevention, cancer prevention, helps lower cholesterol, weight loss, good for diet, source of energy, gluten free, diabetes management, Prevents Hypertension, prevent alzheimers, and maintaining blood sugar levels. The explanations can be described as follows:

1. **Maintain Eye Health**

   A nutritious diet, filled with the right kind of elements will definitely help prevent many diseases from taking form. Corn contains carotenoids – lutein and zeaxanthin. There are multiple studies that show the benefits of these for eyes. They are often referred to as macular pigments that are present in the retina to prevent any damage that may be caused by free radicals cells. These are essentially antioxidants.

2. **Prevents Diverticular Diseases**

   These diseases are often very painful and lead to a lot of discomfort and suffering. Although studies are still being conducted on this subject, there has been an observation made on about 47,228 men that shows the benefits of consuming popcorn to prevent the symptoms of this disease from developing.

3. **Anemia Prevention**

Symptoms of anemia when there is profound deficiency of vitamins and minerals such as iron in the body. Corn is a very good source of iron, per 100 grams of serving it provides an impressive 2.7 mg of iron.

1. **Cancer Prevention**

   An antioxidant-rich diet will help prevent cancer. There are many studies that show that antioxidants fight free radicals cells and prevent oxidative damage to the body. Sweet corn when cooked is observed to have more antioxidants than non-cooked corn. Corn contains carotenoid antioxidants that are proven to protect the eyes and skin from oxidative damage. Popped corn can be a good way to get those antioxidants in.

2. **Help Lower Cholesterol**

   Fiber helps the body in several ways by reducing cholesterol and making the digestive system more efficient. Corn provides a healthy and impressive amount of fiber when eaten either on the cob or in the form of popcorn. Corn provides an impressive 7 grams of fiber per 100 grams of serving. Fiber helps prevent constipation and also lower cholesterol levels.

3. **Weight Loss**

   To lose weight eating the right kind of nutrient rich foods is necessary. Corn is the best snack for this, it is a source of energy and will also leave you feeling full for longer due to its fiber content.

4. **Good for Diet**

   Corn contains anthocyanins, phytic acid, ferulic acid, zeaxanthin, and lutein. These enzymes provide multiple health benefits. This is due to the immense benefits that plants contain in the form of phytonutrients and bio-active chemical compounds like corn.

5. **Source of Energy**

   Corn contains a high amount of carbohydrates. Carbohydrates provide the energy required for the body and mind to function properly. Corn is a complex carbohydrate that takes time to get fully digested. This is beneficial for the body as it keeps fuller for longer. It can also be a good post workout snack.

6. **Gluten Free**

People suffering from gluten intolerance often suffer intense reactions to the enzyme, causing different types of health complications. Corn and corn flour is a good option as it is naturally gluten free and a better option than other grains.

1. **Diabetes Management**

   It has been observed to help non-insulin dependent diabetes. The organic kind is the best as it retains most of its nutrients and is free of harmful elements such as pesticides. The regular consumption of corn provides energy to people suffering with diabetes without spiking blood sugar levels too much.

2. **Prevent Hypertension**

   It contains phenolic phytochemicals that help regulate blood pressure and prevent hypertension. There is also a good amount of vitamin B that is beneficial for the optimal functionality of your adrenal glands.

3. **Prevent Alzheimer**

   It has been studied as a source of thymine, which is an antioxidant that sharpens brain functions. It also helps synthesize acetycholine, which in turn leads to an improved memory.

4. **Maintaining Blood Sugar Level**

   It has a good amount of manganese per serving. This mineral has multiple benefits and keeps the blood sugar levels in check. This also helps fuel the body by breaking down complex carbohydrates.

2.3 Pumpkin

According to Wiryo (2002) (as cited in Arisandi, 2013, p.2), pumpkin is one of the fruit with high fiber content, so it is very good to serve as a substitute for rice. While, Ranonto et.al (2015) claim that pumpkin is a type vegetables which has quite complete nutrition of carbohydrates, proteins, minerals such as calcium, phosphorus, iron, and vitamins; Vitamin B, C and fiber. The yellow or orange of the flesh signals the beta carotene content very high.

In addition, Hamdi (2017) state that pumpkin is a kind of a plant that grows in Indonesia with high adaption ability in various environmental conditions. Pumpkin fruit has a high durability advantage and has a distinctive aroma and

flavor. Besides, still according to Hamdi, pumpkin has a very thick and hard rind, which can act as barrier to respiration rate, the release of water through the evaporation process, as well as the entry of the air causing the oxidation process.

2.3.1 Nutrient of Pumpkin

Meanwhile, Dalimartha (2011) cited in Arisandi (2013) states that pumpkin contains 34 calories, 0.8 g fat, 45 mg calcium, and 0.8 g of mineral so pumpkin is very good consumed by youngster to oldster, because the nutrient content is very good for the health of the body. While Hamdi (2017) states that pumpkin is a type of plant that contains a high enough and complete nutrition so often used to make medicine and health supplements. Nutritional content consist of protein, fat, carbohydrates, vitamin A, B, C, magnesium, iron, phosphorus, calcium, and water. Nutritional content listed in the table 2.3

Table 2. 3 Nutrition Facts of Pumpkins per 100 gr

Informasi Gizi

Ukuran Porsi: 100 gram (g)

	per porsi
Kilojoule	**108,784 kj**
Kalori	**26 kkal**
Lemak	0,1 g
Lemak Jenuh	0,052 g
Lemak tak Jenuh Ganda	0,005 g
Lemak tak Jenuh Tunggal	0,013 g
Kolesterol	0 mg
Protein	1 g
Karbohidrat	6,5 g
Serat	0,5 g
Gula	1,36 g
Sodium	1 mg

Source: https://www.fatsecret.co.id/kalori-gizi/umum/labu

2.3.2 The benefits of pumpkin

According to Wiryo (2002) cited in Arisandi (2013), in terms of health pumpkins also have a myriad of benefits. The pumpkin contains mostly beta carotene, which protects the eyes from cataracts, cancer, heart, dysentery, kidney, diarrhea and other diseases.

Pumpkin has many benefits for human body. Siswanto (2014) says that there are 8 benefits of pumpkins. They are helps lower cholesterol levels, for diabetes, prevent cancer, maintain heart health, prevent cancer, maintaining eye health, and other benefits. The explanations can be describe as follows:

1. Helps lower cholesterol levels eating pumpkin can help lower cholesterol in your body. Pumpkin itself does not contain any cholesterol, but contain phytosterols that have been known to lower LDL cholesterol (up to about 75%) and increase HDL cholesterol (up to 15%). Phytosterols inhibit the absorption of cholesterol in the body and make it directly expelled from the body.
2. Helping diabetes patients

   Pumpkin has a low glycemic index so it can be one of the diabetic diets. Pumpkin can help the production of insulin and help the healing process of pancreatic tissue. Omega 3 found in pumpkin are also good consumed by diabetics.
3. Prevent cancer

   Pumpkin contains many antioxidants, especially carotenoids. These antioxidants can help inhibit the metabolism of cancer cells. Eating pumpkin can help prevent the occurrence of breast cancer, cervical cancer, lung cancer, colon cancer, and skin cancer.
4. Helps maintain heart health

   The content of folate, carotenoids, and magnesium in yellow squash makes it very good for your heart health. Magnesium will work as relaxant blood vessels that can lower blood pressure and prevent the occurrence of stroke and heart attacks. In addition, the yellow squash can also prevent the

occurrence of atherosclerosis is a condition in which the wall of arterial blood vessels to harden due to the accumulation of fat on the inside walls.

1. Maintaining eye health

   Pumpkin consumption can prevent macular degeneration from aging. Zeaxanthin in the yellow squash can help protect the eye's retina from harmful UV radiation and other oxidative stresses.

2. Other Benefits

   Other benefits of pumpkin for your health are:

   - Reduce stress. Pumpkin are rich in amino acids, tryptophan, which will be converted into serotonin. Serotonin is a neurotransmitter that can reduce anxiety and stress so it can improve your mood
   - Prevent Constipation (rich in fiber)
   - Helps maintain prostate health and prevent the occurrence of benign prostate enlargement (zinc)
   - Helps prevent the formation of kidney stones and various diseases associated with bile content and can prevent the occurrence of ulcers due to stomach acid irritation.
   - Helps to strengthen bones and tooth enamel and prevent osteoporosis (zinc and magnesium)
   - Prevent arthritis (anti-inflammatory agents)
   - Prevents skin aging: pumpkins can work wonders for the skin as well. They help delay signs of aging (beta-carotene), increase collagen production, and brighten the skin. Because of its strong vitamin A and C presence, it allows the skin to remain soft and smooth.

2.4 Food diversification

There are several definition of food diversification. Food diversification is an effort to encourage people to vary the staple food consumed so that it is not focused on just one type (Dharmawan, 2017). Based on Presidential Decree no.68 2002, about Food Security Article 9 verse (1) stated that diversification of food is organized to improve food security with attention to the local resources, institutions, and cultures. The diversification is done by increasing the diversity of food,

developing process technology and food products, and increasing the public awareness to consume varieties of food with the principle of balanced nutrition. Furthermore, Elizabeth (2011) concluded that food diversification not only full aimed to reduce rice consumption. But it also aimed to change and improve the consumption pattern of people to be more diverse types of food with better nutritional quality. Meanwhile, Budiarto (2013) states that food diversification can be defined as kinds of food that are consumed, so that more kinds of food that human is consumed, the more various the food will be. In line with Tjiptono (2008) (as cited in wijaya and karneli, 2017) mentions that diversification is an effort to find and develop new products or markets, or both, in order to pursue growth, increased sales, profitability, and flexibility. In other words, food diversification is held to improve the varieties of food and to improve the pattern of the community to make more diverse types of food with better nutritional quality.

2.5 Product Development

Development is the educational efforts of both formal and non-formal conscious, purposeful, organized, and responsible in order to introduce, cultivate guide, development a base and to create a new product to be introduced to public. According to Seals and Richey (1994) development is a systematic assessment against the designer, development, and evaluation of a program, process, and learning products that must meet the validation criteria, practicality, and effectiveness. It can be concluded the development of a product that is made based on the interest of society as well as practical and has a value of high effectiveness for the needs of the community.

According to Amstrong (1997), the new product is the original product, the result of product development, product modifications, and a new brand that developed by the company through its own research and development efforts. KBBI (2019) state that development is a process, method, and action develops. The product that will be developed by the writer, is the development product based on products that are already on the market which will then be developed into a product that has a new look. This product is also developed based on observations from old products to have variations that can improve the quality of these products. It is also

based on the opinion of consumers about the product, whether it is acceptable or not. Product development is a product that already existed, and recreated with the better result to the public.

2.6 The Quality of Food

The quality of food is influenced by appearance, taste, aroma, texture temperature at the time served food color, and character meals. Pauli (1979) states that the quality of food is influenced by:

1. Presentation

   An attractive presentation of food will raise the appetite, so that there will be a desire to enjoy it.

2. Taste and flavor

   The aroma of delicious foods can cause a desire to taste the food. Flavor and aroma of the food that served should be in accordance with the main ingredients, seasoning and sauces that used in processing.

3. Texture

   Good texture of food is accordance by the types of food. The method of cooking can affect the texture.

4. Temperature

   Temperature of serving the food should be in accordance with the food's type temperature, for example hot food was served hot or cold food was served cold.

5. Color

   An interesting food's color, fresh and natural will create the appetite than a burnt or pale food.

6. Character

   To distinguish the type of one food with the other, each food should have the distinctive character or characteristic, such as flavor, aroma of the food, garnish, sauces, as well as the texture of the food.

According (Diane M.Barret) quality defined by the characteristic that imparts distinctive quality may be described by four different attributes:

1. Color and Appearance

   Color is derived from the natural pigments in fruits, vegetables, and food, many of which change as the plant proceeds through maturation and ripening. The primary pigments imparting color quality are the fat soluble chlorophylls (green), carotenoids (yellow, orange, and red).

2. Appearance is determined by physical factors including the size, the shape, the wholeness, finish, and consistency.

3. Flavor (taste and aroma)

   Flavor has been defined as a mingled but unitary experience which includes sensations of taste, smell, and pressure. The flavor is typically described by aroma and taste.

4. Texture

   Textural parameters are perceived with the sense of touch, either when the product is picked up by hand or placed in the mouth and chewed.

5. Nutritional value

   Fruit and vegetables are a major source of both “macro” nutrients such as fiber and carbohydrates, and “micro” nutrients such as vitamin C, B, A, E, minerals, and the lesser studied polyphenolics, carotenoids, and glucosinolates. In addition, the nutritional value in food is an important thing.

2.7 Leaflet

A leaflet is a media used to convey information and promotion of a product. Porinto (2019) states leaflet is one of the promotional tools that is very commonly used by a business entity, both companies and individuals, in promotional and marketing activities. The contents in the leaflet must be clear and understandable to the public about a product. The main functions of leaflet are: first, as promotional media, second, as disseminators of information, third, as a brief profile of a business, and the last as the identity of a company about the products offered.

The leaflet itself is diverse in terms of fold, and size. The size of the leaflet paper before folding usually uses a standard A4 size, which is 21 × 29.7cm.
The number of folds in a leaflet varies, including:

1. Half fold / Single fold, where the paper will be folded in half with each area having the same area or proportional.
2. Trifold, where leaflets will be folded into three parts with the same area on each.
3. Window fold / Gate fold, where the leaflet will be folded in three, with the same width on the right and left side, but rather large in the middle, so that when folded it will only be visible in the middle part.
4. Four fold, where leaflets will be divided into four equal parts.