

CHAPTER I

INTRODUCTION

A. Background

Fruit is a horticulture product that contains minerals, vitamins, and dietary fiber needed by the human body to have better growth and body development. According to WHO, the consumption of a minimum of 400 grams of fruits and vegetables each day can help to improve health and reduce the risk of getting ill. The Ministry of Agriculture of Indonesia stated that the fruit consumption rate of Indonesia's people is still below the WHO recommendations. In 2020, The Ministry of Agriculture of Indonesia showed the Central Bureau of Statistics data of the fruits and vegetables consumption rate of 88,56 grams/capita/day which is decreasing by 1,4% in 2019.

TABLE 1
Average Consumption of Fruit Per Capita

No	Komoditas	Tahun			Growth
		2018	2019	2020	
1	Jeruk, jeruk bali	27,374	33,068	24,885	-32,9%
2	Mangga	10,475	7,51	8,51	11,8%
3	Apel	7,173	8,008	8,415	4,8%
4	Rambutan	40,096	37,567	48,489	22,5%
5	Duku, langsung	37,684	48,9	56,693	13,7%
6	Durian	22,328	26,687	37,014	27,9%
7	Salak	14,939	11,914	11,153	-6,8%
8	Pisang ambon	16,719	14,586	13,372	-9,1%
9	Pisang lainnya	70,267	62,957	59,528	-5,8%
10	Pepaya	23,871	23,475	23,438	-0,2%
11	Semangka	14,032	15,215	16,684	8,8%
12	Tomat buah	9,509	10,542	11,035	4,5%
13	Buah-buahan lainnya	21,001	27,881	26,967	-3,4%
	Total	315,468	328,31	346,183	5,2%

Sumber: Badan Pusat Statistik Indonesia 2020

According to Central Bureau of Statistics of Indonesia data, it has recorded a significant increase in growth by 5.2% of average fruit consumption rate per capita per week from 2019 to 2020. However the significant amount of average consumption was still below the WHO recommendations. The daily average fruit consumption of fruits per capita in 2020 is 49,45.

The Minister of Agriculture of Indonesia, Mr. Syahrul Yasin Limpo (2021), stated that “Indonesian fruit is a tropical fruit with many types and variants which have a very good quality and are highly demanded internationally”. The fruit consumption rate of Indonesia’s people must be increased in addition to helping strengthen the immune system, rich in nutrition, and good for a healthy body, besides the fruits that grow in Indonesia helps the economy sector (Syahrul Yasin Limpo, 2021). Indonesia is located in the southern hemisphere with the tropic climate making the growth of tropical and subtropical fruit possible.

Regionally fruits are divided into Tropical Fruit and Subtropical Fruit. According to Ongs-Aree & Noichinda (2014), Tropical fruit is defined as a fruit that grows in warm and humid regions with an average temperature of 27 degrees celsius and is located between the Tropics of Capricorn and the Tropic of Cancer which is also called the Torrid Zone. Subtropical fruits are defined as fruit that grows in subtropical to semi-hot temperatures with an average of 20.8 degrees celsius and is located within the Mediterranean Area. Tropical and subtropical fruits can be distinguished because of their diversity in their morphological, compositional, and

physiological characteristics. For that reason, they can be classified into several groups that require different treatments to maintain their quality and also to extend their postharvest shelf life.

In Indonesia, there are several underexploited native and exotic fruit species that have potential interests in the agroindustry and a possible future source of income for the local population (Woerdenbag & Kayser, 2014). There are a lot of local farmers in Indonesia who grow tropical and subtropical fruits and it opens new opportunities for them to develop and introduce Indonesian products to Indonesian people.

Starfruit (*Averrhoa carambola*), is one of the tropical fruits which is consumed either fresh or served as juice (Bhat, Binti, Ching, Karim, & Min, 2011). Starfruit is a tropical fruit and can be found in Asian countries and also other tropical areas like Brazil. When matured, starfruit will be star-shaped, sweet, juicy with a golden yellow color.

Mango can be found in many provinces in Indonesia because it is one of the tropical fruits that is locally grown in Indonesia. National mango development is prioritized to several leading mango-producing provinces including East Java, West Java, Central Java, Bali, NTB, South Sulawesi, and NTT. For the last ten years, there has been a significant increase in demand for mangoes. The improvement of domestic demand is due to an increase in income and people's education so that the awareness on healthy living also increases and has an impact on the increasing demand for fruits, including mangoes.

Coconut is one of the unique tropical plants because, in addition to the coconut meat which can be consumed directly without undergoing processing, coconut water can also be drunk directly. Coconut is easy to find in Indonesia because the area of coconut plantations reaches 3.7 million ha with a production equivalent to 3 million tons of copra in 2001.

Apple (*Malus domestica*) is an annual fruit plant that originates from West Asia with a sub-tropical climate. Apple plants can grow in Indonesia after adapting to the Indonesian climate, namely the tropical climate (Baskara, 2010). Apples are a type of fruit that has significant characteristics on their skin color, some are red, green, or yellow. Based on the data that were released by the Directorate General of Horticulture, Ministry Agriculture in 2014, apple agricultural products had a fairly high contribution in 2014. This shows that 242,763 tons of apples in Java have been produced from the total of 249,915 tons of production in Indonesia.

Strawberry is a fruit that has high economic value. Strawberry has an appeal that lies in the bright red color of the fruit and also its small shape and also has a sweet and fresh taste. Strawberries can actually grow and produce well in climatic conditions such as in Indonesia (Budiman and Saraswati, 2008). Cultivation that was carried out by farmers is still conventional and still on a small scale. There are times when farmers do not pay much attention to cultivation techniques such as fertilization and maintenance, technology is also still not applied by farmers, so that the quality and quantity of product produced is still not optimal. Therefore, further introduction about strawberries is needed in Indonesia by using

agricultural products so that people in Indonesia can improve the local economy.

Honeydew is a subtropical fruit that can grow easily in Indonesia because of the plant's adaptability in tropical countries. Originally honeydew comes from the Persian Hot Valley or Mediterranean Area which is the border between West Asia with Europe and Africa. Honeydew is spread through all tropical and subtropical areas. Honeydew can grow optimally with an average temperature of 28-30 degrees celsius with 10-12 hours of sunshine exposure.

Watermelon is a tropical fruit that contains the most water content with the sweet taste from the flesh. The fruits that can grow in a tropical and subtropical region have a characteristic which is a creeping plant located on the ground. It is originally from a dry area in Africa precisely in Kalahari Mountain Area in South Africa. As from the plant origin, watermelons are easily grown and spread to tropical countries like Indonesia which are optimally grown with a temperature of 20-30 degrees celsius. Watermelon has been spread to many main islands in Indonesia and the biggest production came from East Java. There are several locally known watermelons which are Black Pasuruan Watermelon, Batu Sengkaling Watermelon, Bojonegoro Watermelon.

Orange is a subtropical fruit that originally comes from an area that stretches from China and Northern India to Australia and New Caledonia which starts from 40 degrees north latitude to 40 degrees south latitude. The orange tree grows in with an average temperature of 10 to 35 degrees

celsius. Most oranges that are grown in Indonesia like Sweet Orange and Kepron Orange or Mandarin came from America and Italy during the Dutch colonial period. In Indonesia, there are many types of locally grown oranges and many regions have been designated as the area of the production center. Oranges that are cultivated by the local people are Lime, Sour Orange, Sweet Orange, Shaddock, Kaffir Lime, Trifoliate Orange, and Mandarin.

Dates is a tropical fruit that is categorized as a palm plant. Dates are one of the oldest plants that existed with its sweet taste and rich in vitamins and minerals. It has a unique characteristic with an ellipse shape with bright red color and turns into brown tan color when ripe. Dates originally come from the Mesopotamia Plains, Palestine, and Northern Africa and spread into other tropical countries in Central Asia. Dates are cultivated in other areas besides the Middle East like Thailand, Malaysia, and Indonesia. Dates can grow optimally with an average temperature of 25 degrees Celsius.

Lemon is a citrus tropical fruit that grows originally from Himalayan Foothills in Northeast India and spreads widely into many other tropical countries. Indonesia has cultivated lemon since the climate and temperature required for the lemon to grow are matched. Lemons are cultivated due to their potential use as a source of vitamins, nutrition and also for food. Indonesia has cultivated citrus species plants throughout the nation from Sabang to Merauke. The soil temperature required for Lemon to grow optimally is 25 degrees Celsius.

Currently, the level of consumption of dragon fruit in Indonesia is increasing, and one type of dragon fruit that is favored by a lot of people is

red dragon fruit. Dragon fruit is a type of plant-derived from a dry tropical climate. The growth of dragon fruit can be affected by temperature, humidity, soil conditions, and rainfall. The original habitat of dragon fruit comes from Mexico, North America, and northern South America. And so far, dragon fruit has been cultivated in Indonesia such as in Jember, Malang, Pasuruan, and other areas.

Beetroot (*Beta vulgaris L*) is a grass-shaped plant that has a very short stem, the taproot grows into a tuber. Beetroots can be easily found in mountain areas with low temperatures. Beetroot is rich in nutrients that are needed for the formation and maturation of red blood cells. This plant is classified as a tuber that is commonly found in North America and England. In Indonesia, this plant grows in areas with fertile soil, with pH 6-7, sufficient rainfall, and a height of more than 100 meters (Laskmi, 2004).

While seeing the problems that the government faces about the low average fruit consumption rate of Indonesian people, the writers are innovating to create a new product by creating a Recipe Book of 12 Variants choux from Indonesian locally grow fruits. The recipe book contains 8 variants of choux derivative products which are Cream Puff, Choux Roll, Eclair, Churros, Karpotka, Paris Brest, Choux au Craqueline, and Chouquette Waffle. The writers use choux as the base pastry recipe with the innovation that is done in the recipe book because of the practical, economical production and very easy to find the ingredients used. The writers are aiming for teenagers, middle age, and parents as it fits their taste. Choux pastry is easy to make with simple method instructions and cheap

because the ingredients used are butter, water, eggs, and flour. Writers also created the recipe book with the ingredients that are using locally grown tropical fruits in Indonesia with the expectation to help the government to increase the fruit consumption in a unique and delicious way and also help local people to create a unique business that is practical and economical. Hopefully, with this recipe book, writers can introduce unique and different ways to innovate an ordinary choux pastry and can be enjoyed by society.

Choux pastry, also called *pâte à choux* in French, is one of several variants in pastry dough that uses a delicate dough. Choux is a typically brownish-colored pastry that is usually in a one-bite size so that it would be easier to eat. It has a crunchy texture on the outside and has a characteristic taste. When making choux pastry, there are seven main ingredients needed which are water, butter, milk, flour, sugar, eggs, and salt. Choux is very famous in Indonesia because its taste fits with the tongue of Indonesian people. There are many ways that we can modify choux pastry so that it can create new variants of choux. For example, by changing and mixing other ingredients for the outer skin of the choux pastry to create a unique taste. By using ingredients like juice, we are not only creating a unique taste but also the smell and appearance of the choux pastry itself.

The first variant in the recipe book is Cream Puff. Choux paste is a type of pastry that have light characteristics but has a large volume and is strongly leavened with large cells (Anni Faridah, et al 2008:286). The characteristic of choux paste that distinguishes it from other types of pastry is its cavity. Choux paste comes in two forms, which are *éclairs* (oval

shaped) and cream puff (round shape). The french name of cream puff is pâte à choux which means cabbage dough that refers to the cream puff that looks like cabbage

The second variant in the recipe book is Éclair is a type of pastry that has the characteristics of being light and hollow inside which is filled with Vla filling. Eclair is very popular because of the shape of the éclair, the chef can add some topping and decorate on the top of the éclair.

The third variant in the recipe book is Choux Rolls. Usually choux rolls use fruit cocktail as a filling. Choux rolls is type of shapes from choux dough with flat shapes, spread with vla on top and rolled with sushi or cakes rolling technique. The inside of choux rolls will be filled with thin slices of fruits.

The fourth variant in the recipe book is Churros. According to the Malones (2020) *Churros* were an invention of Spanish shepherds who fried a dough made of flour, water, and salt – the same base ingredients (in addition to butter and eggs) for the Churros people know today – as a substitute for fresh bread. The story also goes that the name for the pastry was supposedly inspired by the ridged horns of the native *Churra* sheep, an aesthetic which the fried treat takes after. In Spain, Churros is usually consumed as a pastry in a Sunday breakfast or on festival days. It is also popular to eat Churros after a long night out at 6am before people have a home party. People often go out on Sunday mornings to buy a lot of Churros for them to take home so that they can share with the family. In the afternoon, Churros are also be enjoyed as a snack especially on rainy or cold days. In Southern Spain, people usually eat churros around 6pm or so. In Spain, Churros are not enjoyed as a dessert because they are fried and can

feel a little heavy. However, in Indonesia people can enjoy Churros whenever they want as a snack in the morning, afternoon, evening and night, because people in Indonesia eat Churros like they eat snacks in general.

The fifth variant in the recipe book is Karpatka. Karpatka is choux that comes from Poland. This variant of choux is a type that is usually enjoyed with coffee or tea, so it is shaped in some small-bites choux. Karpatka's shape characteristic has a flat and square shape which in the middle has a vla filling and fruit toppings to add flavours.

The sixth variant in the recipe book is Paris Brest. Paris Brest or Choux paste has a shape that looks like a bicycle tire. This type of Choux paste was originally created to liven up a bicycle race event which is held in Paris that was known as Paris Brest.

The seventh variant in the recipe book is Choux Au Craqueline. Choux Au Craquelin which means it has a cracked appearance that was made from sugar topping on top of the choux paste and because there is sugar on top of the choux paste, the choux would not break like choux paste in general.

The eighth variant in the recipe book is Chouquette Waffle. Due to the profusion of croissant waffles, a lot of people are competing for innovation and starting to turn every product into waffles. Chouquette waffle is a choux pastry dough that goes through two baking processes. The first baking process is baking the choux pastry dough in the oven and the second baking process is baking it using a waffle machine.

B. Purpose

The purpose of making a recipe book design entitled "Choux Recipe Book 12 Variations of Indonesian Local Grown Fruit" as a Professional Competence Work are:

1. To introduce another way to make Choux using juices as a substitute for water or milk.
2. To introduce the shape variations of choux derivative products.
3. To Introduce a new way of consuming fruits in a different form.

