

CHAPTER II

LITERATURE REVIEW

2.1 Ingredients Review

2.1.1 Terong

Mostly eggplant is farmed for vegetables and nutritional reasons. Aspartic acid, tropane, flavonoids, lanosterol, gramisterol, steroid alkaloids, glycoalkaloids, histidine, nasunin, oxalic acid, solasodine, ascorbic acid, and tryptophan are just some of the essential compounds that the phytochemical analysis of eggplant reveals are abundant in the fruits and leaves. Additionally, it has a high moisture content and few calories. These substances were discovered for being helping in the treatment of a number of illnesses, including cancer, anti-inflammatory, anti-asthmatic, anti-platelet hypolipidemic, and hypotensive, among others. (Naeem & Ugur, 2019). Eggplant has a number of medicinal benefits . In multiple investigations, extracts from eggplant fruits were confirmed to have great therapeutic effects on warts, burns, and many inflammatory disorders, such as stomatitis, arthritis, and gastritis. Among the many secondary metabolites that eggplant produces are vitamins, glycoalkaloids, and antioxidants. (Gürbüz *et al.*, 2018)

2.1.2 Rice flour

Rice flour has practical qualities that improved texture and whiteness. Albumin, globulin, glutelin, and prolamin are the four distinct proteins that make composed rice protein. Rice is ground into a fine flour called rice flour. A minor quantity of water (about 8%), fat (about 1%), and ash (about 1%) are all present in rice flour. The regulation of processing, determining the texture of foods, and the design of heat processing can all be significantly influenced by the rheological

characteristics of rice flour. Because a wide temperature range is experienced during the preparation and storage of meals containing starches, understanding how temperature affects. Cho *et al.*, (2011). rheological qualities is especially crucial. Rice flour is flour that can be used as an alternative to wheat flour at a lower price. so that the final product that is produced is expected to be an economical product and can be reached by all people.

2.1.3 Cheddar cheese

Cheddar cheese is a biochemically dynamic food that goes through a lot of transitions as it ages. The biochemical changes that take place during maturing are divided into primary events like glycolysis, lipolysis, and also proteolysis and secondary events like metabolism of fatty acids and amino acids that are crucial for the production of secondary metabolites, including a number of compounds essential for flavor. The conversion of lactose to lactate by certain lactic acid bacteria cultures is a crucial component of cheese production. Proteolysis is the most complex of the main activities during cheese ripening, notably in Cheddar-type cheese. The amount of lipolysis in cheese is dependent on the kind of cheese and can range from modest to considerable. (Murtaza & Ur-Rehman, 2014)

The physical, physiological, and dietary properties of cheese are covered in this chapter. The group of dairy products with the most variety, scientific curiosity, and complexity is cheese. While the majority of dairy products are biologically, biochemically, and chemically quite stable when produced and maintained appropriately, cheeses are physiologically and biochemically dynamic and hence intrinsically unstable. A complex sequence of concurrent and sequential microbiological, biochemical, and chemical processes are required for the production and maturation of cheese. When these processes are synchronized and balanced, the resulting products have extremely

desired flavors, but when they are out of balance, they have undesirable flavors. It is amazing that such a vast range of products can be generated when one considers that an essentially equivalent raw material (milks from a relatively small number of species) is exposed to a generally common manufacturing technique. (O'Brien & Guinee, 1996)

2.2 Product Review

2.2.1 Eggplant Sale

Indonesia is a country rich in agricultural commodities, one of which is bananas. Since bananas have a high water content and decomposition is accelerated by water, drying is one method of extending their shelf life. Sale bananas are a processed banana product made by the drying process that is widely available in Indonesia. The large number of bananas in Indonesia causes bananas to have low economic value (Rahman *et al.*, 2018). According to Faizin & Saputra (2020), eggplant also has an unstable selling price, it is not uncommon for prices to fall far below expectations. As a result, farmers lose money and are reluctant to continue to plant eggplants again. When many farmers and the general public are unaware of the advantages and healthy elements found in eggplant, the issue of unpredictable eggplant pricing is made even more difficult. When compared to raw eggplants, eggplant chips are more valuable economically (Rumangkit, 2018). Through increased revenue from the sale of processed eggplant chips, the community's economy can also benefit.

So far, the majority of chips produced by the community are made from bananas and sweet potatoes. Even though there are many other raw materials that can be produced into Chips which have nutritional value and vitamins that are useful for the human body. One of them is eggplant sale. To improve eggplant products in other processed forms, eggplant is processed in dry form. (Nurwerstin & Samaduri, 2018).

2.3 Process Review

2.3.1 Drying Method

Based on Rahman *et al.*, (2018), One method of preserving shelf life is drying. The weight of the fruit or vegetable used will decrease during the drying process. During drying, sale eggplants experience a decrease in water content in terms of temperature and humidity, so a method is needed that can maintain the water content of sale eggplants during drying by applying drying technology using an electric oven. Drying using an oven is faster than drying using the sun's heat (Nursyafitri & Tanggasari, 2022).

2.3.2 Deep-Frying method

The most popular and century-old method of cooking, deep frying is still employed on a large scale in both commercial settings and domestic settings to produce a variety of food products. (Devia, 2020). The highest index value (reduction in fat uptake/decrease in water loss) was achieved by SPI/MC and SPI/WPI mixed coatings, which reduced the uptake of fat by up to 99.8%. (Albert, S., & Mittal, G. S., 2002).

Determining the precise impact of the many elements engaged in a thermal, industrial, or culinary process on the nutritional value of the processed food is an ongoing problem. It's possible for the fat to selectively alter the food's composition as it permeates it, almost like a chromatographic process. Numerous variables, such as the food's texture, size, and shape, as well as the frying conditions—temperature, time, etc.—have an impact on the alterations that are created. All of these elements have an impact on how the nutritional value of fried food changes (Ghidurus & Turtoi, 2010)