

## CHAPTER II

### LITERATURE REVIEW

#### 2.1 Ingredients Review

##### 2.1.1 Chickpea

According to Yegrem (2021) Many bioactive substances, vital vitamins, and minerals can be found in chickpeas. Eating chickpeas always requires some processing because they contain several antinutritional elements in addition to their nutritional advantages. The availability of nutrients is impacted by a number of conventional techniques, including soaking, cooking or boiling, germination, roasting, fermentation, and dehulling. Chickpeas may have a number of health benefits for some of the primary diseases of humans, including cancer, type 2 diabetes, heart disease, and digestive disorders. As a result of its role in providing protein and fiber, chickpea is regarded as a "functional food".

According to Yohana Sugiarto, (2019) The term "aquafaba" has grown a lot of popularity lately especially among vegetarians. Combining the words aqua (water) and faba (bean), we get aquafaba. This can be understood to mean the liquid collected from the remaining beans' cooking. Aquafaba can also be produced from the cooked water in canned beans, in addition to the residual cooking water from the beans. Usually, chickpeas or peanuts or garbanzo beans are used as nuts. Garbanzo beans, commonly referred to as chickpeas, are a type of legume with a high nutritional value and the benefit of having a high protein content (17–30%). Albumins, globulins, glutelins, and prolamins are a few of the proteins that can be found in chickpeas Salim et al in Yohana Sugiarto (2019). These chickpeas contain a lot of carbs (between 41.1% and 47.4%), and 83.9% of those carbohydrates are made up of starch.

### **2.1.2 Vital Wheat Gluten**

By working alone or collaborating with other food ingredients like grain and lipids, proteins in food products serve a dual purpose as both nutrients and structural building blocks. As a result, concentrated or isolated dietary proteins like essential gluten have been created. One of the most common proteins among the numerous kinds of proteins is wheat gluten protein, which is utilized in a variety of textured foods. The quality and flavor of finished products, such as processed meats, cheese, and bread, can be influenced by the primary functional characteristics of proteins. Non-nutritive activities of proteins include their solubility, ability to hold both water and oil, ability to froth, and ability to emulsify (Zhang et al., 2021)

### **2.1.3 Seitan**

According to Bates & Wingate in Yuliantoro et al. (2022), seitan is a processed high protein wheat used as a substitute for animal protein. throughout the manufacturing process, which can take up to several hours, the gluten content of the wheat used is drastically reduced to make it safe for consumption by people of all ages. Anwar and El-Chaghaby (2019) explain that seitan, a meat substitute created from wheat protein, has been used in China, Japan, Korea, and Russia for thousands of years. Small amounts of salt and very low-fat protein can be found in seitan. Also, gluten (seitan) a texture that is extremely close to meat, making it perfect for vegetarian dishes that are designed to resemble meat-based ones. For vegetarians who cannot consume soy, seitan is a good choice. Western countries' interest in tofu and seitan, which are considered as high-protein sources, particularly for vegetarians, has recently increased. They rarely feature in the typical diets of Arab countries despite

containing great benefits because of their disagreeable flavor. Wheat flour was mixed as needed to make dough with tap water to create seitan. Until a gluten-protein was visible, the dough was repeatedly washed beneath running water to get rid of starch and some bran. When not in use, seitan was stored in a refrigerator.

## **2.2 Product review**

### **2.2.1 Jerky**

Fardiaz (in Putri & Herryani, 2019) claims that Jerky is a centuries-old custom among people in Indonesia and is an approach of preparing and keeping meat. Meat can be transformed into jerky by adding sugar, salt, and other condiments. Sliced and ground beef jerky are produced using different techniques. Taste components will also form during processing and drying, improving the jerky's taste and aroma making it tempting. According Purnomo (in Putri & Heryani, 2019) state that jerky made from beef is thinly sliced meat that had been cut into flakes that afterwards salted or dried in the sun with a sour, salty, or sweet sauce. Beef jerky is a common type of dendeng in the market. The hash a part of the beef is used for creating jerky. Bright crimson, containing fine fibres and yellowish fat, shows that the beef is still good Muliawan (in Putri & Heryani , 2019). Rachmawati (in Putri & Herryani, 2019) claims that the production of beef jerky is usually carried out manually and with basic tools. Jerky is produced with a combination of drying and curing methods. A nice beef jerky has a reddish-brown to brown color, is clean, smells great, is non-sticky, is slightly bit dry, and has a somewhat sweet and savory flavor.

## **2.3 Process review**

To prepare vegan jerky bits, the initial step involved steaming the seitan dough, followed by subsequent sautéing until achieving a dry consistency.

### **2.3.1 Steaming**

One of the most crucial processes in the making of the vegan jerky bits is the steaming of the dough to turn it into seitan. According to Christiana et al. (2021) most people are aware that food is best processed by steaming. The nutritional value of the meal remains good after steaming. Steaming also produce less moisture compared to boiling resulting in a less wet seitan. Therefore steaming would be the most suitable process to use to produce a seitan in which the nutrition will remain the same.

### **2.3.2 Sautee**

According to Ukom et al. (2023) due to the better texture quality of the sautéed method, less mineral loss and/or mineral gain compared to the uncooked treatment may have occurred. It was believed that sautéing the ingredients for five minutes at 150 °C softened them but did not significantly affect the solubilization of minerals.