

CHAPTER II

LITERATURE REVIEW

2.1 Mushrooms

2.1.1 Oyster Mushroom

According to Salehawati (2019?), One of the mushrooms that is affordable and can be found in traditional markets or vegetable stalls as well as modern markets is the oyster mushroom. Oyster mushroom (*Pleurotus Ostreatus*) is a type of mushroom that breeds quite a lot in Indonesia, Indonesia itself is a tropical country where various types of mushrooms can grow and reproduce easily (Wibowo, 2023). Oyster mushroom (*Pleurotus ostreatus*) is a saprophytic organism that lives on decayed or dead organic media. The nutrients needed during mushroom growth are: phosphorus, sulfur, potassium, carbon which are already available in weathered wood tissue but in small amounts, so the type of planting medium and the duration of composting (incubation) greatly affect the nutritional value and the success of oyster mushroom cultivation.

Oyster mushrooms are rich in nutrients, including 19–35% protein, 9% amino acids, 72% unsaturated fat, and a significant amount of fiber (7.4–24.6%). In addition to treating AIDS, cancer, and cholesterol, it also strengthens immunity and fights bacteria and viruses (Rosmiah, 2020). The oyster mushroom (*Pleurotus ostreatus*) is a dietary source that is comparable to lean meat and fish in terms of nutrition. Even though it is well recognized that oyster mushrooms have a high nutritional value when compared to other species of mushrooms, the use of processed products made from oyster mushrooms is currently limited (Pardianti, 2022). White oyster mushrooms can be used as a substitute for meat for vegetarians, low in fat and high in protein and good for diets (Alridiwirah *et al.*, 2019). Due to their chewy, soft texture and high fiber

content, it has the potential to replace meat as a source of both dietary fiber and protein (Nurzihan *et al.*, 2023).

2.1.2 Dry Shiitake Mushroom Stalk

Shiitake mushroom, *Lentinula edodes*, or Hioko, is a food mushroom from East Asia that is well known throughout the world. The name is taken from Japanese. Shiitake literally means the mushroom from the shii tree (*Castanopsis cuspidata*). Weathered shii tree trunks are a place for this mushroom to grow (Widyastuti, 2009). Shiitake is one of the kings of wood mushrooms because of its price, nutritional value and properties, which have high economic potential. This fungus can grow on logs that are dry (not weathered) or on wood by-products, such as sawdust. Shiitake mushrooms are valued in the Chinese and Japanese populations for their great nutritional value as well as their purported ability to extend life (called the "elixir of life"). This is so because mushrooms' chemical composition provides a wide range of medicinal advantages (Djuariah, 2007).

According to the most recent research, shiitake extract also lowers blood sugar and cholesterol, raising the possibility that it could be utilized to treat diabetes and heart disease (Fajri, 2009). According to Hu (2000), shiitake mushrooms contain vitamins, minerals, soluble fiber, protein, fat, and carbs. Eight (8) essential amino acids are present in shiitake mushrooms in a balanced ratio. Compared to the amino acid composition of soybeans, meat, milk, or eggs, this amino acid is significantly better balanced. The vitamins found in shiitake mushrooms include niacin, vitamins A, B, C, D, and B12. The carbohydrate lentinan is the primary component of shiitake. Substitution of shiitake mushrooms will affect the texture of the meat to become rough, this is due to the fiber content of shiitake mushrooms (Lumbantobing, 2014). Shiitake mushroom (*Lentinula edodes*) is a type of mushroom that has the potential to be used as a natural

flavoring agent. The addition of shiitake mushrooms to both the cap and stem contain essential and non-essential amino acids as well as various other important compounds such as fiber, carbohydrates, protein, calcium, and 5'-nucleotides. This content is what makes shiitake mushrooms the potential to give food an umami taste (Ghassani & Agustini, 2022).

2.2 Vegetarian Sate Padang

A reported by Kanaya & M (2021), sate Padang is a typical food of West Sumatra and is a part of Indonesia's traditional food heritage. In different parts of West Sumatra, there are many varieties of Sate Padang in circulation, each with a distinctive historical background, spice mixture, and processing. The purpose of this study is to gain a general understanding of satay as a staple of the Padang tribe's cuisine. The exquisite and distinctive flavor of sate padang makes it one of the favorite cuisines of the Sumatran people.

The main ingredient used in sate padang is beef. However, in Culinary Innovation and New Product Development, the meat will be replaced by oyster mushrooms and shitake mushrooms. According to Rachmawaty *et al.*, (2021), the protein content of oyster mushrooms per 100g is 27% while the protein in soy and tempeh is 18.3% per 100g, besides that oyster mushrooms also have a delicious taste like meat. Mushroom fiber is excellent for digestion and is great for vegetarian dieters due to its high fiber content (7.4–24.6%).

2.3 Steaming

The mushroom meat must be steamed since the egg white mixture makes the texture of the mushroom meat become moist. The steaming method is a cooking technique which cooks food ingredients with boiling water vapor at a temperature of 100°C (Lumbong *et al.*, 2017). According to Rahayu *et al.*, (2022), in the process of making mushroom meat, steaming is used to deactivate enzymes that could affect the meat's color, flavor, or nutritional

content unintentionally while it is being stored. The compact texture of the material is due to the reduced water content during the steaming process.