

CHAPTER I

INTRODUCTION

1.1 Background of the Study

Jerky is a semi-moist food ingredient which is usually made from meat or fish, thin and wide, seasoned and dried (Husna et al., 2014). Beef jerky is perceived as a nutritious meat product and possesses characteristics of convenient consumption and shelf stability (Shi et al., 2020). Beef jerky has become popular and is readily found in retail shops worldwide, occupying a considerable market share (Luo et al., 2020). The process of making beef jerky is the process of preserving meat by drying with addition of preservatives (salt, sugar) and other ingredients to get the desired taste (Ikhsan et al., 2016). Making jerky usually requires spices such as brown sugar (30%), galangal (2.5%), coriander (2%), shallots (5%), garlic (1.5%), salt (2 %), and pepper (0.2%) (Kemalawaty et al., 2019).

Tempeh is a nutritious fermented legume food made from soybeans and commonly consumed in Southeast Asia especially in Indonesia and Malaysia (Teoh et al., 2024). As a staple food, tempeh contains nutrients advantageous as a daily diet due to its high content of protein, fatty acids, and vitamin B1 (Radita et al., 2018). It is most suitable for vegetarians as meat replacer as it is a good source of non-animal protein (Teoh et al, 2024). The processing of tempeh involves the addition of *Rhizopus* spp. to cooked, peeled soybeans for fermentation at 37 °C for five days (Huang et al., 2018). This results in a white cake-like structure which can be sliced and prepared in various ways, e.g., fried or baked. Even though tempeh is originally made from soy beans, other sources are used as well: other bean types, lentils, rapeseed press cake, lupin, maize and barley, resulting in a variation in both nutritional properties and sensory quality (Aaslyng et al., 2021).

Eggplant (*Solanum melongena* L.), one of the popular species like tomato, pepper and potato, is widely distributed in South-east Asia such as China,

Thailand and India (Liao et al., 2022). Eggplant is shown a variety of shapes (egg to long club shaped) and colors occurs from white, green, yellowish, through grades of purple pigment to almost black color (Naeem et al., 2019). Eggplant fruit is important items of the human diet due to its many cooking ways and various used states such as fresh, dried and preserved (Liao et al., 2022). Apart from being a food ingredient, purple eggplant can also be used as a food coloring and has health benefits, because purple eggplant contains anthocyanin pigments which act as antioxidants, lowering blood cholesterol levels and as a food coloring (Martini et al., 2021).

Recently, the numbers of consumers following a vegan diet and the demand for vegan food have increased notably in many industrialized countries. The term vegan food refers to products without animal-based food ingredients. Consumers following a vegan diet are people who refuse to consume any animal product, i.e. not only products where the animal has to be killed (meat and gelatine) but also dairy products, eggs, and other animal-based food ingredients (Janssen et al., 2016). What drives people to adopt this model are mainly ethical, health and environmental reasons. A vegan diet, if well-balanced and varied, can help in achieving and maintaining an optimal state of health (Marrone et al., 2021). Indeed, there exists a perception that vegetarian, and especially the vegan diet, are deficient for important nutrients including protein, calcium, iron and vitamin B-12 (Clarys et al., 2014).

1.2 Objectives of the Study

The objectives of this study are following below:

1. To make a jerky that contains protein from non-animal products and also higher in fiber than the normal beef jerky so that vegans and vegetarians can enjoy and also gain health benefits from it.
2. To analyze the nutritional value of vegan jerky made with tempeh and purple eggplant.