

CHAPTER I

INTRODUCTION

1.1 Background of Study

The lack of vegetables in fast food is one of its shortcomings. Therefore, in order to meet the demand for vegetable fiber, that need an inventive fast food that includes vegetables. Vegetables have been used into the nugget-making process. Spinach, broccoli, carrots, green beans, potatoes, and other vegetables are some of the ingredients used to make nuggets. And one of the vegetables that has the potential to be added to nuggets is *Moringa* leaves (*Moringa oleifera* L).

Moringa leaves are oval in shape with small sizes. *Moringa* leaves contain equivalent vitamin C in 7 oranges, equivalent to vitamin A in 4 carrots, equivalent with the calcium in 4 glasses of milk, the potassium is equivalent to that contained in 3 bananas, and the protein is equivalent to the protein in 2 yoghurts (Mahmood, 2011; Fauziah, 2022). One of the best locally available ingredients for supplemental food is *Moringa* leaf. This vegetable is simple to obtain and is popular in the community. 100 gr of *Moringa* contains 1.7 gr of fat, 2.1 gr of dietary fiber, 9.1 of carbohydrates, and 8.1 gr of protein (Abbas *et al.*, 2018).

One of the popular processed chicken meat products is a chicken nugget. A chicken nugget is made from seasoned ground chicken meat, covered by flour and bread crumbs. The mixture is then half-fried and frozen to maintain its quality during storage (Permadi *et al.*, 2012; Wahidah, 2019). Fried foods such as potato chips, tortilla chips, fried fish, fried snack products, french fries, and chicken nuggets have gained worldwide popularity (Osorio Yanez, 2017; Ital, 2020). One type of fast food that is popular today is nuggets, which are small pieces of boneless meat that are breaded or battered and then deep-fried, air-fried, or baked.

Beef, chicken, and other types of meat can be used to make

nugget products. But mostly, chicken is one of the most often consumed. There are also a lot of additional ingredients to make chicken nugget, such as, ice cubes, is one of the additional supporting ingredients used in the production of nuggets. Ice maintains a cool environment, which helps a gel to form well and to keep the temperature constantly low. And another one ingredient that used in the manufacture of nuggets is white bread. White bread serves to make the texture of the nuggets chewy. Besides that, function the addition of white bread in the manufacture of nuggets is to tenderize nugget texture so it's not too hard.

Kilincceker (2013; Ital, 2020) stated that the color attributes of fried chicken products can visually enhance the product's preferential ability as it would affect consumer preferences by increasing food attractiveness. The negative impact caused by junk food or fast food, namely increased levels of fat in the body so that it can cause obesity or overweight. Most of the content of junk food is an addictive substance which if consumed in excess can lead to the growth of cancer in the blood (Sutrisno, 2018). Adding nutrient sources to these items is one strategy to balance human requirements for rapid eating while still gaining good nutrition. *Moringa* leaves (*Moringa oleifera*) contain flavonoids, polyphenols, lycopene, and β -carotene. The main flavonoid found in *Moringa oleifera* leaves is quercetin (Makita *et al.*, 2016; Ni'matus, 2022).

Quercetin is a strong antioxidant compound found in *Moringa* leaves, where its strength is 4-5 times higher than vitamin C and vitamin E (Jusnita and Syurya, 2019). *Moringa* leaves have a high antioxidant potential and can be employed as a supplemental source of nutrients in nugget goods. The *Moringa Oleifera* plant is useful for growing, preserving, and enhancing human health, particularly dietary intake. In 100 g of *Moringa* leaves, there are 6,7 grams of protein and 0,9 grams of fiber. The leaves of the *Moringa* tree have the potential to be a nourishing supplementary food ingredient.

The extract from *Moringa* leaves has the potential to be a nourishing food additive. Providing supplemental food prepared from *Moringa* leaves is one strategy used to encourage kids to consume vegetables. Nugget ingredient using *Moringa* leaves are an innovation in manufacture of food ingredients that can increase the quality of the nuggets produced, both the texture, taste, aroma, and nutrition of the nuggets. Processed become nuggets, the unpleasant smell and bitter taste of *Moringa* leaves can be removed because in the process of making nuggets there are treatments such as washing, steaming, adding spices and frying. Based on the benefits and nutritional content contained in *Moringa* leaves can be used as raw materials making nuggets, which are rich in nutrients and are expected to be liked by all, including children and vegetarians.

Other than that, the nuggets produced is expected to meet the nutritional needs of those who consume it. As it is known, toddlers are not interested in eating vegetables, but are quite fond of snacks and nuggets, thus one endeavor to meet the nutritional needs of toddlers. The innovation of chicken nuggets with fortified *Moringa* leaves is expected to be a source of protein as well as a source of other nutritional components needed by the body.

1.2 The Objectives of the Study

The Objectives of this study are following below:

1. To accustom children to eating vegetables as a media to increase children's vegetable consumption.
2. To use locally available ingredient, since this vegetable is easy to get and has been consumed by local society.
3. To analyze and identify nutritional content and selling.