

# CHAPTER I

## INTRODUCTION

### 1.1 Background of Study

Meatballs are made from beef, chicken, or even fish meat using grinding process to reduce particle size. Before boiling, the ground meat is mixed with other ingredients and flour and formed into balls. Meatballs are round-shaped food products from an obtained from a mixture of livestock meat and starch or cereals or without adding other food ingredients and permitted food additives (Untoro dkk, 2012; Arina, 2021). Limited knowledge of traders causes the use of preservatives that are not allowed such as borax and formalin in doses that exceed the threshold (Dyah dan Regina, 2007; Tahrir, 2019).

Chicken meat has advantages in making meatballs because it has short fiber so it is not tough to eat and is easily digested by the body (Irmawaty, 2016; Ni Wayan 2021). Chicken meat contains fat, carbohydrates, vitamins, vitamin B, minerals, and water in addition to protein. Each component varies depending on the species, age, and sex of the chicken. Fresh breast broiler meat has an ash content of 19.54%, fat content of 12.12%, cholesterol content of 2.77%, moisture content of 66.32%, carbohydrate content of 0.79%, and crude fiber 4.68% (Rahmadani, 2019). Aside from its nutritious value, chicken meat has several other advantages, like being relatively inexpensive, accessible to individuals of all socioeconomic backgrounds, and generally available in the market.

Chicken meatballs are the most popular among other meatballs due to their rich flavor, softer texture and lower cost than beef meatballs. Broiler meat is extensively utilized as meatball due to its delicacy and suppleness. Tenderness, in addition to flavor, is a signal for consumer evaluation. Customers like meatballs that are more soft and simpler to chew.

Tapioca Flour in meatball products functions to improve/stabilize emulsions, increase water holding capacity, reduce shrinkage, increase product

weight and can reduce production costs. (Usmiati, 2009; Farida, 2018). Formation of gel (gelatinization) in tapioca flour during the process of making meatballs produce thickness, density, and stiffness. In general, the production of meatballs uses tapioca flour, tapioca flour contains 17% amylose and 83% amylopectin (Rosiana, 2011; Retty, 2019). Amylose provides hardness and plays a role in gel formation and amylopectin provides stickiness and forms viscoelastic properties (Harijono et al., 2000; Tahrir, 2019). If the manufacturing process is done properly, the resulting starch will be pure white (Moorthy, 2004, Retty, 2019). So far, jackfruit seeds have not been widely used and processed. Jackfruit is a plant that is widely grown in Indonesia for a variety of reasons, one of which being that it is well-known to the general public. It is something that people are used to ingesting and processing. Despite the fact that young jackfruit has a high potential for use in a variety of processed meals. Jackfruit is still regarded a low-value fruit due to the company's ignorance in processing young people into numerous prepared cuisine. Vitamins A, B, and C, as well as calcium, potassium, magnesium, and iron, are all found in jackfruit. Among the chemicals contained in jackfruit include thiamine, riboflavin, and niacin. Jackfruit has a high vitamin C content and can be utilized as an antioxidant. Antioxidants are known to assist the body in increasing white blood cell activity.

Jackfruit seeds can be used as starch, in processed meat products, the starch from jackfruit seeds can function as a filler and binder, especially for meat products processed with restructured meat technology. Starch made from jackfruit seeds is expected to substitute tapioca flour as a filler and binder in making meatballs. The study of substitution of meatballs with jackfruit seed starch is aimed at diversifying food sources and utilizing jackfruit seed waste from jackfruit processing waste. Its use is more environmentally friendly because no materials are wasted, or it can be referred to as zero waste in food. Based on data, the amount of food waste in Indonesia per year is high, which is around 16.3 tons. Of the total waste, the largest amount is rice (Trivia, 2023). A simple way to prevent food from becoming food waste can be done by buying

food that is not excessive, paying attention to expiration dates, and composting it.

Zero waste is a notion that encourages resources to be reused throughout their entire cycle. Zero waste is comprised of three concepts: reduce, reuse, and recycle. Reduce refers to reducing the amount of material to be used in order to eliminate waste. Reusing materials that can still be processed and consumed is what reuse is all about. Recycle by converting waste resources into fertilizer. Zero waste is a waste management and processing strategy centered on recycling operations. The concept is used to handle garbage, which will eventually limit the amount of waste to protect and restore environmental resources, so that waste from community activities is correctly handled (Widiarti, 2012; Luh Diah 2023).

## **1.2 The Objectives of the Study**

The Objectives of this study are following below:

1. To making jackfruit seeds as an alternate material for flour production.
2. To reduce the disposal of leftover food waste, so that it can be processed into food that has many health benefits.