

# CHAPTER I

## INTRODUCTION

### 1.1 Background of the study

Crackers are snacks made from tapioca flour mixed with flavoring ingredients. The term crackers in several countries, among others crackers/crackers/*kropoek* in Indonesia, *keropok* in Malaysia, *kropek* in the Philippines, *bánh phồng tôm* in Vietnam and snacks in some Asian countries (Amertaningtyas, 2011). Crackers which have a crunchy and tasty texture, are usually consumed as an addition to side dishes or as a snack by the public. Crackers have relatively easy and cheap ingredients and easy to obtain (Pradapa et al., 2021). Crackers are processed food that is often used as a snack and is liked by various groups. Apart from that, crackers are also widely popular (Batu Bara et al., 2023). The high consumer makes the cracker production continues to grow, not just one type of processed cracker but several different variants (Putri et al., 2021), such as rice crackers, onion crackers, sand crackers, etc.

Making crackers has the potential to be a very profitable business because apart from the ingredients being easy to obtain and relatively cheap, the production cost can also be kept lower to get more optimal profits (Wahid et al., 2020). In addition, since food is primary needs that people would buy again, crackers which are one of the popular food item in Indonesia is the perfect to make.

There are several types of chickens in Indonesia, most of the chickens cultivated are Broiler Chicken (Broiler) and free-range chicken. Chicken is a staple food globally, Indonesia in particular. However what is often used as food is the meat, while usually the bones are not used for food and are just thrown away. Chicken bones can still be said to be used for one of the ingredients for making food such as making broth, but after making chicken broth the bones will still be discarded (Jannah et al., 2013).

This can eventually increase the amount of food waste in Indonesia which will be an issue. Even though chicken bones have good benefits for the human body it is ashamed that most of them are discarded. Chicken bones contain nutrients that are actually needed for the human body such as calcium carbonate and calcium phosphate, these contents form hydroxyapatite. Hydroxyapatite is a mineral that can be used as an adsorbent because it has pores and is wear-resistant, and can exchange ions which can reduce heavy metal levels (Ferriansyah et al., 2021). The mineral content in chicken bones is one of the reasons for adding chicken bones to crackers. Minerals are also very good for the body, mineral content can help prevent hypertension (Pakpahan et al., 2021). Therefore, adding chicken bones to crackers will also add good nutrition to the human bodies.

The production of crackers goes through several steps in which 2 are the most important, namely drying and frying. Each step greatly influences the results of the crackers. Drying is the process of making crackers which usually uses the sun but now there are also tools for drying them (Mulyanah et al., 2015). After the drying process the crackers will be fried. During the frying process, the crackers become fluffy and have low porousness which is called swelling, this is one of the important quality parameters for crackers (Zulfahmi et al., 2014).

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

The objectives of this study are as follows:

1. Reduce chicken bone waste that has accumulated in Indonesia by processing it.
2. Maximize the mineral content in chicken bones by adding them to cracker products.