

# CHAPTER I

## INTRODUCTION

### 1.1 Background of the Study

Rice grain is commonly subjected to a milling process to remove the husk and outer bran layers during the preparation for human consumption. Rice bran, a by-product produced after milling rice kernels (*Oryza sativa* L.) possess numerous health benefits due to its high nutritional value, in addition to be highly used as animal feed. Rice bran also is a rich source of dietary fiber, sterols, vitamins and various antioxidants (Manzoor., 2023). The rice production in Indonesia from January until December 2023 was about 53,98 million tons (BPS., 2023). Making about 5,3 million tons of rice bran. Rice bran (RB) composed of aleurone, pericarp, subaleurone layer, and germ, which constitutes about 10% of the total weight of the rough rice (Wang et al., 2021). The health benefits of rice bran are that it plays a role in bone and tooth growth, overcomes constipation, maintains tissue growth, inhibits diabetes and prevents heart disease. (Susanti et al., 2020)

In Indonesia, there is a unique and popular sweet potato known locally as cilembu sweet potato (*Ipomoea batatas* L. (Lam)) that originated from the village of Cilembu (typical area) of West Java. This sweet potato is very popular because when it is baked, it has a distinctive taste similar to sweet honey taste. The sweetness in sweet potato is due to the presence of reducing sugar such as fructose, sucrose, glucose and maltose (Mawarni et al., 2023).

Chips are a type of food that is often consumed, but it turns out that the chips on the market do not have high fiber content. The use of rice bran in these chips aims to increase the fiber content in the chips. However, the use of rice bran in high concentrations makes the taste of the chips bitter. For that reason, the addition of cilembu sweet potato was done to reduce the bitter taste. Therefore, it is important to carry out this research to create

innovative chips that not only use rice waste but are also attractive.

## **1.2 Objectives of the Study**

The objectives of this study are following down below :

1. Reduce food waste.

The use of rice bran in chips aims to reduce food waste. Rice bran is a waste in the process of milling grain and rice. It is undesirable to include this part in rice because apart from shortening the shelf life of rice due to the rancidity it causes, it also worsens the appearance of the rice because of the brownish color it has. However, rice bran has very high nutritional value and can be used as a food ingredient.

2. To create innovative products from cilembu sweet potatoes and rice bran.

3. To introduce and increase public knowledge about rice bran, as well as informing them that rice bran can be processed into delicious and nutritious product.