

# CHAPTER I INTRODUCTION

## 1.1 BACKGROUND OF THE STUDY

Pumpkin (*Cucurbita moschata*) is a type of creeper that belongs to the types of seasonal plants that are widely available in Indonesia, especially in the highlands. Yellow Pumpkin has the privilege of having a sweet taste, aroma, and attractive color. Generally, pumpkin is only processed into compote or vegetables (Gardjito, 2006). Yellow Pumpkin has a fairly complete nutritional content such as carbohydrates, protein, pro-vitamin A, vitamin B1, and vitamin C. The content of pumpkin is 32 kcal energy, 1.1 g protein, 6.6 g carbohydrates, vitamin B1 0.08 mg, and vitamin C 5.2 mg (Ashari, 1995). Research by Kandlakunta et al. (2008), stated that the content of  $\beta$ -carotene in pumpkin is 1.18 mg/100g.  $\beta$ -carotene is a kind of carotenoid, apart from being a provitamin-A,  $\beta$ -carotene also acts as a  $\beta$ -carotene antioxidants are effective at low oxygen concentrations (Sinaga, 2011).

The nutritional content of pumpkin is quite complete and  $\beta$ -carotene is quite high at an affordable price, pumpkin has the potential to be developed into a processed food product based on local food. Considering the nutritional potential and availability of abundant pumpkins on average pumpkin production throughout Indonesia ranges from 20-21 tons per hectare, while yellow pumpkin consumption in Indonesia is still very low at less than 5 kg per capita per year (Widayati dan Damayanti, 2007).

Waffle is a snack that comes from Belgium with dough-based cakes made from wheat flour cooked with a waffle iron patterned to give a distinctive shape and characteristics. Waffles in Indonesia are

made with a sweet taste so this snack is one of the favorites, especially among teenagers (Alexandra, 2009).

Pumffle is a healthy waffle made from pumpkin flour. Pumpkin flour here is used to replace the main basic ingredient of waffles in general, that wheat flour. This pumffle is a gluten-free product so it is safe for consumption by gluten intolerance. The reason I choose this product is that pumpkin contains a lot of vitamins and is good for the fortification of children's growth and development also the use of pumpkin for food in Indonesia is still rarely used. I decided to make waffles because I see there are not many choices of gluten-free snack products in Indonesia and most of them are imported and the price is quite high. So, I make pumffle as an affordable healthy snack that can be enjoyed as snacks by the whole family.

#### **1.1.1 Processing Method**

1. Peel and clean the pumpkin then cut it into thin slices and steam it
2. Process the pumpkin with Dehydrator until dry
3. Then blender the dried pumpkin until it becomes flour
4. Shift the flour from the blender
5. In a bowl mix all the liquid ingredients (oil, milk, egg, vanilla extract, a sugar)
6. In a large bowl mix all the dry ingredients (pumpkin flour, mocaf flour, maizena flour, baking powder, and salt)
7. Transfer all liquid ingredients into a large bowl, mix it until combined.
8. Heat the waffle maker, pour the batter in and cook on low heat until brown.

## **1.2 OBJECTIVE OF THE STUDY**

The purpose of RnD new product are as follows:

1. To introduce Pumffle as an innovate gluten free waffle
2. To understand the production method and nutrition of Pumffle
3. To ensure that Pumffle as a new innovate product can be accepted by the consumer
4. Prepare the cost and price aspect for product in the market
5. To identify how to market the waffle and legal aspects that need to be obtained
6. To understand how to make an appropriate packaging and product label