CHAPTER I
INTRODUCTION

1.1 Background of Study

Noodles are a popular food in Indonesia. In Indonesia, noodles are also considered a staple food that is loved by people of all ages and commonly served in various ways in daily menus. Noodles are also one of the most popular foods among children as a breakfast option (Perdana & Hardinsyah 2013). The raw material for making noodles is wheat flour (Astawan, 2008). It is a pity that the noodle raw materials cannot be produced in Indonesia due to climatic conditions which are not suitable for thegrowth of wheat plants. This spurred Indonesia to depend on imported wheat (the basic ingredient for wheat flour). Gluten-free food products have received serious attention from global food experts due to the increasing number of individuals with Celiac Disease (CD) or gluten intolerance (Gallagher et al., 2004). The average annual increase in CD incidence is estimated to be 9.77 ± 8.27 percent worldwide (Lerner et al., 2015). This effort also encourages food diversification, namely the use of local ingredients, one of which is keluwih fruit.

The keluwih plant (*Artocarpus camansi*) is a plant that can live in tropical countries such as Indonesia. The keluwih plant has many uses, the fruit is usedto make vegetables, the flowers are used as a mosquito repellent, the leaves areused as animal feed, and the wood is used to make household items. However,all of these benefits have not been utilized optimally by the community, and people are even less interested in consuming this fruit. This keluwih fruit has alow price due to the lack of public interest in processing or utilizing this fruit.

Keluwih fruit belongs to the Moraceae family which has quite high nutritional value compared to other Moraceae fruit, for example jackfruit (Pitojo, 2005). The results of the study showed that the starch content of *Artocarpus altilis* amylose content of 22.52% and amylopectin content of 77.48% (Akanbi et al., 2009). Therefore, keluwih fruit can be used to meet the daily nutritional needs of the community.

Kluwih fruit (*Artocarpus camansi*) is a compound fruit, shaped oval, with adiameter of between 10-20 cm, soft and short spines, as well as green color. Inside the fruit are kidney-shaped seeds, 3-5 cm long. blackish brown (Ragone, 2006). Kluwih fruit (*Artocarpus camansi*) has a carbohydrate value of 70.2% where the crude fiber content is 2.1 g (Morton, 1987) or 1.9% (Amusa, Kehinde, and Ashaye, 2002). The fiber content in breadfruit (*Artocarpus camansi*) consists of amylose, pectin, gum, cellulose and lignin.Througtout history, the community has only processed keluwih fruit in a simple way, suchas cooking vegetables or boiling the seeds. In fact, if maximum processing is carried out on the keluwih fruit, this fruit can be consumed to meet the food needs of the community. Therefore, it is necessary to introduce a processing technique, so that it is hoped that the community can modify the keluwih fruitinto other product forms and can benefit from this plant. Keluwih fruit can be used as an ingredient in food diversification. Food diversification aims to increase food needs and increase the nutritional value of food consumed by the community. One of them is used as keluwih flour. Flour with fine grains produced from a sieve, which is gray in color, has a distinctive smell of bread crumbs. The process of making breadfruit flour usesa drying process with a tool called a food dehydrator. According to Bowser (2011), a food dehydrator has advantages including made of food gradestainless material which is safe for drying food, the machine is very easy to operate, easy to

clean, durable and anti-rust material, has a good heat circulation system so that the heat can reach the corners of the tool evenly, very energy efficient because it is supported by an internal fan, thermostat and time setting when processing.

1.2 The Objectives of the study

The objectives of this study are following below:

1. Providing information that keluwih flour can be used as a food source to replace wheat flour.
2. To find alternatives for those who cannot eat gluten or for those who follow a gluten free diet.