

# CHAPTER I

## INTRODUCTION

### 1.1 Backgrounds of Study

In Indonesia, there are many types of noodles, but the one that is most developed is the type of noodle made from wheat flour. In this case, Indonesia is not a wheat producer but a producer of rice and its staple food is rice. Lately, wheat noodles have begun to shift rice as the staple food of the Indonesian people. Therefore it is necessary to diversify or develop products from rice so that they are not displaced by imported ingredients such as wheat. The diversification of product development made from rice flour is expected to reduce Indonesia's dependence on wheat flour.

One of the noodle products made from rice that has been circulating in Indonesia is Kwetiau. Horndok and Noomhorm (2007) state that kwetiau is a type of noodle made from rice and Hasan (2013) complements that kwetiau has a shape like noodles which is white in color with a flat and wide shape and is made from rice flour, so it can be used as a substitute for rice.

The development of kwetiau that can be done includes modifying the texture using hydrocolloids that exist in Indonesia, namely tapioca flour. According to BeMiller and Whistler (2009), tapioca flour is gluten-free and contributes to a supple and elastic texture. Tapioca flour is also often added as a thickener. According to Kaur et al. (2005), the addition of tapioca flour generally ranges from 5-25% of the total flour weight. The characteristics of tapioca flour are low gelatinization temperature, fast swelling, and high viscosity. The addition of tapioca flour produces a more chewy and elastic texture (Fu, 2008).

Besides that, in Indonesia, there is another popular plant, namely Sorghum. Sorghum seeds can be processed directly into sorghum rice or processed semifinished material. One of the uses of sorghum seeds is processing them into sorghum flour. Sorghum flour has the advantage of high swelling power and is easily soluble in water so that sorghum can be made into a variety of dry and wet foods (bread, noodles, etc.) (Sutrisna, 2012).

Indonesia has a dependence on wheat flour which is increasing over time. Indonesia can reduce this dependency by processing sorghum which can actually grow in Indonesia. The nutritional content contained in sorghum flour is not inferior to other flours which are also widely consumed by Indonesian people, such as rice flour, corn and wheat flour. Sorghum flour has advantages in higher levels of crude fiber, fat, ash, and starch compared to wheat flour.

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

The objectives of this study are following bellow:

1. To introduce sorghum plants that have not been widely cultivated in Indonesia
2. To preserve sorghum as a raw food material, by processing it into kwetiau, a popular food in Indonesia
3. To reduce the dependence of the Indonesian people who consume too much wheat flour by replacing it with sorghum flour