

CHAPTER 1

INTRODUCTION

1.1 BACKGROUND OF THE STUDY

Noodle is an alternative substitute of rice which have been consumed by the society. Noodle is getting popular nowadays in the society because it is cheap and its simple cultivation and processing. Noodle contain a lot of carbohydrates, which contribute a lot for the energy in the body so that noodles can be used as a substitute for rice.

Common noodles that are usually consumed were made from wheat flour. Wheat flour is obtained from milled wheat seeds, that has elastic, and contains gluten so it is not easily broken during the noodle process making and noodle cooking. The breaking power of noodles is affected by the gluten content on the ingredients, the proportions of amylose and amylopectin as well as the dough process. Thus, the factor of elasticity is influenced by the composition of the dough. The gluten is formed by 2 compositions, which is *glutenin and gliadin*.

The nutritional value of noodles can generally be considered good because in addition of carbohydrates, and also a small amount of protein called gluten. The other ingredients consist of water and salts such as NaCl. Water is an important component in the process of gluten, besides that, it is also functions as a medium in mixing salt and binding carbohydrates to form a good dough. Salt has a function to give flavor, strengthen the texture of the noodles and increase elasticity and reduce dough stickiness.

Bentul is a type of tuber which is well known by the public. Bentul is spread almost all over Indonesia and the production of Bentul is increased. Bentul have

abundant productivity, however the utilization of Bentul has not been explored maximally. In society, Bentul is processed by frying and steamed. Not many people know about the advantages of Bentul which has bioactive compounds that can be used as functional food.

The nutrients that contain in Bentul is high, it is contains by starch (18,02%), sugar (1,42%), minerals in the form of calcium of (0,028%) and phosphorus (0,061%). Starch is the highest nutrient content found in Bentul. Due to the content of starch that is high, Bentul can be used as a substitute for rice and become a hope for public consumption in Indonesia.

Even though Bentul is types of starchy vegetables, it is rich of carbohydrates that can control blood sugar. It happens because Bentul contain amount of fiber which is good for maintaining digestive health. The fiber compound in Bentul can significantly prevent heart disease by 17%. This plant also contains twice as much fiber as potatoes. In addition, resistant starch carbohydrates in it are also able to control bad cholesterol levels in the body. Bentul can be the most appropriate food preparation for diabetics, because these tubers contain a type of carbohydrate that functions to control blood sugar.

Xanthan gum is a substance added in the production of packaged foods to thicken the texture of the food. In addition to thickening the texture of food, Xanthan gum also acts as an emulsifier or food adhesive. For example, Ready to eat food (RTE) that contain water and oil will be mixed with Xanthan Gum, because it helps these ingredients to combine harmoniously.

Bentul is soaked with Natrium Metabisulfit, then dehydrate in dehydrator, and crushed to make flour. Bentul flour mixed with all ingredrient to make noodle, then put in noodle machine and cook to be served.

1.2 THE OBJECTIVES OF STUDY

1. The purpose of this research and development is to maximize the use of Ubi Bentul without decreasing its benefit at much.
2. To introduce Ubi Bentul into society so that they have a choice to consume carbohydrates.
3. How to make a healthy noodle from Ubi Bentul.
4. How to create a new product to start a brand new business.