1.1 Background

Indonesia is a tropical country that has various types of plants including wide diversity of tropical fruits. One of the common fruits is papaya (*Carica papaya* L.). Papaya fruit is consumed widely, whether eaten raw or cooked with other vegetables. While papaya leaves are usually cooked and consumed as vegetables. Even though papaya leaves have many health benefits such as for diabetes, a lot of people are reluctant to eat them because of its bitter taste (Suprapti, 2005; Juarez-Rojop *et al*., 2012).

As a developing country, communicable disease such as tuberculosis, dengue fever, and malaria is still a big issue in Indonesia. However, the rate of non communicable disease such as diabetes and hypertension also undergo an increase, which normally happened in developed country (Utami *et al*., 2014).

In worldwide, diabetes is the leading COD (cause of death), killing approximately 5.1 million people in 2013 and affect 382 million adults. It is estimated that in 2035, 592 million adults will be affected. The increasing prevalence is due to unhealthy lifestyle and lack of physical activity (Toma *et al*., 2014). According to Riskesdas (2013), the prevalence of diabetes in Indonesia increase from 1.1% in 2007 to 2.1% in 2013.

The under utilized papaya leaf may serve as one of the solution to the increasing rate of diabetes in Indonesia. Therefore, in this research papaya leaf is used to be made into functional drink. The preliminary step includes comparing
different methods to extract the papaya leaf to gain an optimum result of the aqueous extract. While in the main research, papaya leaf extract is added with different type and concentration of spices as well as non caloric sweetener to mask the bitter taste. Organoleptic test is conducted to find the most acceptable variation of drink.

1.2 Research Problem

Papaya leaf extract shows hypoglycemic activity and also prevent and improve diabetic complications such as metabolic disruption (Juarez Rojop et al., 2012 and 2014). However, due to its bitter taste not many people are willing to consume it. In this research, the extract is made into functional drink to increase its acceptability. Several types and concentration of spices and non caloric sweetener are used to mask the bitter taste. The functional drink is expected to serve as one of many solutions available to reduce diabetes rate in Indonesia.

1.3 Objectives

There are two types of objectives in this study, which are general objective and specific objective.

1.3.1 General Objective

The purpose of this research is to produce a functional drink made from papaya leaf extract.

1.3.2 Specific Objectives

The specific objectives of the study are:

1. To determine the best papaya leaf functional drink preparation method.
2. To determine the best type and concentration of spice that mask the bitter taste of papaya leaf.