

CHAPTER I

INTRODUCTION

1.1 Background of the Study

Dodol is a traditional Indonesian food that is quite popular, with glutinous rice flour as the main raw material (Setiavani et al., 2018). Dodol is classified as a semi-wet food (Intermediate moisture food) that has a chewy texture, has a sweet taste that can be eaten immediately (Lukito et al., 2017). Dodol is a high-sugar food. The sugar content in dodol which is sucrose is at least 45 percent. This makes concern for most people, that excessive consumption of dodol can cause an increase in blood sugar levels so it is not good for consumption by people with militus diabetes (Setiavani et al., 2018).

Beetroot (*Beta vulgaris* L.) is a plant that contains many betalain compounds. The main source of natural red dye (Maimunah et al., 2021). The choice of beetroot in this study is because beetroot is high in antioxidants, fiber and has nitrate content that has been tested to lower blood pressure. The main ingredient of beet tubers that have a high antioxidant content is betalain which is the main pigment in purplish red beet tubers (Sukmawati et al., 2023). The nutritional content of red beets that have the potential and antioxidants to be developed is folic acid and vitamin C, besides that they also contain fiber (Rohanah et al., 2023) and minerals including nitrate (Alizar, 2020), manganese, potassium, magnesium, iron, copper and phosphorus (Nurzihan et al., 2021).

Yellow pumpkin has a fairly long shelf life. Yellow pumpkin can be stored for 4 months to several years as long as there is no injury or damage to the surface of the skin. Yellow pumpkin is also rich in nutrients (Subaktilah et al., 2021). Yellow pumpkin can give texture and add sweetness to dodol. In this study using pumpkin as a sweet flavor enhancer that can help to reduce the use of sugar in the cooking process, and give

texture to dodol. Yellow pumpkin also has an interesting color of fruit flesh, which is reddish-yellow. This is due to the presence of carotenoid pigments (Syafutri et al., 2014).

Arrowroot can be found in almost all islands in Indonesia, scattered from the coast to the mountains. This study used arrowroot starch flour instead of glutinous rice flour as a dough adhesive and gave dodol a chewy texture. Arrowroot starch can be used as a substitute because it has a high amylose content (Miftakhussolikhah et al., 2016). Arrowroot tubers is consumed as a source of carbohydrate. Arrowroot tubers had been found to have antioxidant activity when tested in vitro. Arrowroot contains phenolic compounds (Rahmadhani et al., 2017).

Coconut milk that is cooked for a long time and heated repeatedly can be a source of bad fats and contain high cholesterol so, causing increase in bad cholesterol levels and bad fats in the blood. Thus, people with certain diseases such as acid reflux disease or GERD, high blood pressure, diabetes, and coconut milk allergies cannot consume coconut milk. Fiber creme is one of the food ingredients that is a combination of fiber and cream. Fiber creme is a multifunctional creamer made from natural carbohydrates called oligosaccharides that are easily absorbed by the large intestine. Fiber creme can add a creamy and delicious taste that can be applied to various food and beverage menus (Martadajaja, 2022). Fiber cream is a creamer derived from vegetable fat, so it is lactose-free, gluten-free, and low in sugar. The total fat contained in 100 g is 1 gram with 1 gram of dietary fiber and 0 grams of sugar content (Wardani et al., 2020).

In this dodol manufacturing study, the use of sugar has a lower percentage. This is intended to reduce the presentation of sugar content found in dodol generally. Therefore, dodol made from beetroot and pumpkin which contains high antioxidants, fiber, vitamins and minerals, with the use of arrowroot as a substitute for glutinous rice flour and fibercreme substitute for coconut milk is expected to be a healthier food alternative for people with high blood pressure, and GERD.

1.2 Objectives of the Study

1. Creating dodol that is high in antioxidant, fiber and low in sugar.
2. Creating healthier dodol alternatives for people with, GERD and high blood pressure.