

CHAPTER I

INTRODUCTION

1.1 Background of the Study

Fruit is an agricultural commodity that has high nutrition and is important in a healthy diet. One of the local fruits that has high nutrition is pisang kepok. Pisang kepok is rich in carbohydrates, fiber and potassium and contains several vitamins. Pisang kepok itself has a dense texture and when ripe will release a distinctive sweet flavor (Lestari, 2016). Strawberry has a fresh sour taste and distinctive aroma and is rich in vitamin C, antioxidants and fiber, so the combination of sweet and sour fruit is ideal. However, the fruit has a perishable nature due to its short shelf life so it requires the right method in order to extend the shelf life of the fruit.

One of the current fruit processing innovations that is currently trending is the manufacture of fruit leather, which is a thin sheet made from fruit puree and then dried. In addition to extending the life of the fruit, fruit leather also maintains the nutritional value of the fruit (Setiaboma, 2020). The process of making fruit leather requires stabilizers to help in the formation of the texture and structure of the product (Fauziah et al, 2015).

The benefit of kappa karagenan for fruit leather is that it can bind water, so that fruit leather can remain moist but still sturdy, besides that using kappa karagenan will make the results of the product more chewy and dense. Kappa karagenan is made from seaweed (*Kappaphycus alvarezii*). Kappa karagenan is known as a gelling agent, stabilizer and thickener (Kaya, 2020). Kappa karagenan is also resistant to heat because it has polysaccharides that form bonds with mineral ions such as K^+ (potassium) or Ca^{2+} (calcium) to form a gel (Fathmawati et al, 2023) thus making fruit leather stable. The benefits of kappa karagenan in small amounts are that it can help digestion and give a long satiety effect because it contains soluble fiber, kappa karagenan is also low in calories and fat-free so it is suitable to be used as a healthy snack. The use of

kappa karagenan can also inhibit microbial growth because kappa karagenan absorbs water in fruit leather (Yunianta, 2018).

The selection of strawberry and banana produces a balanced taste, which is sweet and sour because the sweetness comes from ripe pisang kepok and there is a sour taste from strawberries but not extreme. In making this fruit leather, honey is also added as a natural sweetener and adds a delicious taste to the fruit and is beneficial for health.

The fruit leather production process involves several steps. The initial step in the manufacturing process is to smooth the strawberry and pisang kepok fruit into puree, in smoothing the fruit must be considered so that all the fruit is evenly smooth, so that later it is easy to flatten, in the mashing a little water is added so that the fruit is easier to smooth. After mashing, kappa karagenan powder and honey are added, so that the resulting product can be sturdy. The next step is to spread the puree onto a baking sheet that has been lined with baking paper, the purpose of using this baking paper is so that the fruit puree does not stick to the baking sheet. After that fruit leather is in the oven at 90 ° for 1 hour 45 minutes.

1.2 The Objectives of The Study

The objectives of this study are following below:

1. To evaluate the effect of kappa karagenan on fruit leather texture.
2. To determine the nutritional facts of fruit leather strawberry and pisang kepok with adding kappa karagenan.