CHAPTER I

INTRODUCTION

1.1 Background of the Study

Fruit leather is a thin sheet of fruit puree with a low water content that has been processed. It is primarily consumed as snack, but it can also be used in breakfast cereals. Fruit leathers have pleasant flavour and aroma and are easy to chew. It is an attractive way for children and adolescent to incorporate fruits into diet. Fruit leather has a long shelf life, is easy to make and its nutrients do not change over time (Sukotjo *et al*., 2021). Fruit leather is a convenient alternative to fresh fruit, providing practical solution or many people. Moreover, fruit leather have significantly lower calorie content compared to other snack foods. Fruit leathers are made from fresh fruit or a mixture of fruit and other ingredients that involves a dehydration step. Drying is a method of preserving food, it reduces moisture content by inhibiting enzyme activity and microorganisms, resulting in a longer shelf life. Different types of fruits are being combined to develop fruit leathers in order to improve their nutritional value (Santos *et al*., 2021).

In Indonesia, watermelon (Citrullus lanatus) is one of the most cultivated and consumed fruit because it is a popular choice for the hydration and refreshing taste along with its high-water content. Watermelon fruit consists of different parts, such as the red or yellow flesh, albedo (white flesh), and the green, hard outer rind. Watermelon fruit is usually consumed either directly as fruit, juice , or as a dessert. The rind usually discarded. Currently, watermelon rind waste is underutilized (Siregar, 2015). There is quite a lot of waste produced from watermelon, especially the inner skin (Albedo) which makes up almost 36% of the watermelon (Saragih et al., 2017). If this amount is calculated using data obtained from Badan Pusat Statistik (BPS), watermelon production in 2017, 2018 and 2019

will produce watermelon albedo waste of 179,808 tonnes, 173,427 tonnes and 209,999 tonnes. The albedo of the watermelon rind contains high levels of antioxidants that can neutralize free radicals and reduce cell damage in the body (Tahir, 2016). In addition, the albedo can be utilized due its nutrients such as vutamins, citrulline, minerals, enyzmes, and pectin at high content of 21.03%. Therefore, the albedo can be an ideal base ingredient to developed in Indonesia as a new food source such as fruit leather.

Dragonfruit peel is very beneficial for the health either by consuming or applied the body, but it is only considered as food waste which has not been used properly. Dragon fruit peel that is wasted can cause environmental problems, especially water pollution. Dragon fruit skin can be applied as a natural food colorant. The peel also has a high dietary fiber content, which is around 46.7 gr per 100 gr. Based on the content possessed by the red dragon fruit skin, the red dragon fruit skin can be used as functional food, such as fruit leather. Therefore, discovering the commercial value of dragon fruit peels is important to realize waste utilization and improve economic efficiency.

1.2 Objectives of the Study

The objectives of the study are:

1. To reduce food waste from local produces such as dragon fruit skin and watermelon skin to make healthy snack alternative which is fruit leather
2. To identify the acceptance of fruit leather that is made from food waste
3. To identify the fiber and micronutrient in dragon fruit skin and watermelon skin combined