

CHAPTER 1

INTRODUCTION

1.1 Background

Coffee is a class of beverage which has been found since A.D. 575 in Yemen. (Anthony, Combes, Astroga, & Bertrand, 2002). The consumption of coffee has already been massive in the Europe and several African regions since A.D. 850. Meanwhile, in Indonesia, the coffee drinking habit has begun for more than a century. The consumption of coffee beverages is encouraged by its benefit and the unique flavor. Previously, people consume coffee for the caffeine inside the coffee as a refreshing agent. Nowadays, people are more looking for the pleasure which focus on the aroma and the taste of the coffee. As a result, each coffee shop has its own unique flavor profile . (Huch & Franz, 2015)

The coffee production which used to focus mainly on the quantity is shifting toward the final quality of the product. In consequence, small-lot farmer who only focus on producing small amount of coffee each year with expensive price is emerging over the past decade. In addition, coffee producers are paying more attention to the variety of their coffee, and environmental condition that can influence the quality of the coffee such as elevation above sea level, climate, and soil condition to produce high quality ingredient (Huch & Franz, 2015). The coffee processing is also progressing toward technologies that are more sophisticated but some also adopting several traditional methods that have left behind due to their low production capacity. Finally, new brewing techniques are continuously developed to obtain the best profile from each coffee bean. (Huch & Franz, 2015)

As the consequence of the current trend, farmers start to leave several varieties which are considered as low in term of quality and plant a new variety at their plantation. However, this process takes a lot of time and money thus a lot of small farmers are left behind. They stuck in the situation where not only they cannot open a new plantation but also force to sell their commodity at the low price. As a countermeasure, new agricultural practices and coffee processing lines are crucial to make

this left-behind coffee variety shines. (Huch & Franz, 2015) One plausible modification in the coffee processing line to improve the quality of the coffee bean is the modification of fermentation process. Fermentation process is a part of coffee processing line which is done mainly to remove mucilaginous around the coffee bean. The mucilaginous layer around the coffee bean is constructed by polysaccharide substance which has viscous and gelatinous consistency. The fermentation is usually done by using natural micro flora on the coffee cherry to digest and remove the polysaccharide. Aside from removing mucilaginous layer during wet-process, fermentation process also determines the final composition and sensory profile of the coffee bean. That being the case, controlling the microbes during fermentation may improve the profile of the coffee bean. (Huch & Franz, 2015)

1.2 Problem Formulation

Based on the research background, the problems that were addressed in this research are related to the following questions.

- a. Can we alter the final sensory of coffee bean by using *Saccharomyces cerevisiae* and *Lactobacillus bulgaricus* during fermentation process?
- b. What are the effects of conducting fermentation process with *Saccharomyces cerevisiae* and *Lactobacillus bulgaricus* on the final sensory profile of coffee bean?

1.3 Research Objectives

The purpose of this thesis research is to understand the importance of fermentation process during coffee processing.

1.4 Scope of Work

This research focused on controlling the fermentation process which followed by other coffee processing. Such processing include drying, sorting, roasting, grinding, and brewing. Meanwhile, trained panelist will do the assessment of each treatment with descriptive sensory analysis.