

CHAPTER 1

INTRODUCTION

Indonesia has a great diversity of floras and faunas. As a tropical country, Indonesia produces some tropical fruits such as avocados. Indonesia contributes to six percent of the world's avocado production. Indonesia is categorized as the top three countries producing avocado after Mexico and Chile. Almost every region in Indonesia can produce avocados. The major avocado producing areas in Indonesia are in West Java and East Java. The total production of avocados in Indonesia in 2014 is approximately 307.318 tons, of which 184.139 tons are produced in Java, and the rest are produced in outer islands (*Kementrian Pertanian Direktorat Jenderal Hortikultura, 2015*). In addition, the production of avocado in Indonesia increased from 257,642 tons in 2009 to 307,318 tons in 2014 (*Kementrian Pertanian Direktorat Jenderal Hortikultura, 2015*). Despite its abundance availability, there is no significant use of avocados in Indonesia. Furthermore, Indonesia is categorized as a big avocado producing country with little export.

In Indonesia, the use of avocado is limited only to be freshly consumed as juice, dessert, and ice topping. Any other production of materials from avocados such as avocado sauces, guacamole, sushi mixes, and health to beauty products is very popular in other countries. The main limitation of fresh consumption is a good post-harvest process to keep the quality of the avocado fruits right up to the hands of the consumer. The transport of avocado from one to another island in Indonesia can be tricky because it might result in the maturation of avocado fruit and a decrease in quality; Therefore, the shelf life of the avocado becomes shorter, and the price becomes lower. The excess of avocado fruit production is generally not harvested or used as animal feed. In this case, product diversification is needed to boost the use of avocado as well as improving the market viability.

The fat content of avocado is very high that can take up to 20% (Takenaga, Matsuyama, Abe, Torii, & Itoh, 2008). Furthermore, it is rich in protein and vitamins, such as Vitamin A and B, and few amounts of vitamins D and E. On the other hand, avocado is also recognized for its health benefits due to the compounds contained in the lipid fraction, namely omega fatty acids, phytosterols, tocopherols,

and squalene (Duarte, Chaves, Borges, & Mendonça, 2016). Considering the poor utilization of avocado in Indonesia and the fact that avocado contains high nutritional value, especially high in fat content, it could be an option to extract the oil out of the avocado to be made into avocado oil. This experiment aims to know the best combination of malaxation time and malaxation temperature to get the most yield and to measure the quality of the avocado oil. It is predicted that the cold pressed method with precise malaxation time and temperature will produce a higher yield of avocado oil.