

## ABSTRACT

Fatharik Kurnia Ramadhan, 24020221140051. **The Effect of Dry Fermentation Time of Arabica Coffee (*Coffea arabica* L.) on Its Chemical Characteristics and Sensory Quality.** Under the supervision of Endang Kusdiyantini dan Susiana Purwantisari.

The final quality of Arabica coffee, which includes chemical characteristics and sensory qualities, is greatly influenced by post-harvest processes, including fermentation. This study aims to determine the effect of dry fermentation time on the chemical characteristics and sensory quality of arabica coffee. The study was conducted using a completely randomized design with three fermentation time treatments (24, 48, and 72 hours). Coffee fermentation was carried out dry (naturally) in airtight glass jars under semi-anaerobic conditions. After fermentation, the coffee was processed into powder for chemical characteristic analysis, including moisture content, ash content, coffee essence content, and caffeine content. In addition, sensory quality analysis was also conducted through organoleptic tests with untrained panelists based on aroma, taste, and aftertaste parameters. The results showed that dry fermentation time only significantly affected caffeine content, with a significant difference between the 48-hour and 72-hour treatments ( $p < 0.05$ ). Other chemical characteristic parameters did not differ significantly, but descriptively, moisture and ash content tended to decrease, while coffee essence and caffeine content showed a fluctuating pattern. The results also showed no statistically significant effect of dry fermentation time on sensory quality, although descriptively there was an increase in aroma scores and a decrease in flavor and aftertaste with fermentation time. The 24-hour fermentation was considered the best dry fermentation treatment for arabica coffee because its water and ash content met SNI 01-3542-2004 and its overall organoleptic score was higher than other fermentation times.

**Keywords:** *Arabica coffee, chemical characteristics, dry fermentation, sensory quality, fermentation time*