

ABSTRACT

The widespread consumption of *jamu*, a traditional herbal medicine, contributes to the accumulation of rhizome pomace (RP), a by-product generated during the water extraction of local rhizomes, such as black turmeric (*Curcuma aeruginosa*), white turmeric (*Curcuma zedoaria*), and aromatic ginger (*Kaempferia galanga* L.) used in *jamu* production. This study addresses the environmental challenge posed by the improper disposal of RP, as prior research also states that RP are potentially still rich in valuable compounds. This research aims to resolve this issue by valorizing RP through different drying methods (80°C for 18 hours, and 50°C for 48 hours) using conventional cabinet drying, after which is micronized into a powder. Physical properties are important for drying, as some properties are affected by different drying temperatures. The study focuses on assessing the resulting changes in the physical properties of the dried RP powder, including moisture content, water activity, color, hygroscopicity, solubility, and flowability. From the results obtained, it could be determined that RP treated with the high-temperature showed significantly lower moisture content ($9.86\% \pm 0.54$), lower water activity (0.49 ± 0.012), and higher L* value in color (78.29 ± 0.62). However, there are no significant differences on the hygroscopicity, solubility, and flowability between RP powders treated with the different temperatures. Hence, based on the findings, the best drying conditions to produce RP powder is high-temperature drying at 80°C for 18 hours.

Keywords: rhizomes pomace, rhizomes pomace powder, cabinet drying, high-temperature, physical analysis