# Postharvest processing of *Sargassum duplicatum* for tea products

**Nahdlotul Fauziyah, Fermanto, Muhamad Nur Ghoyatul Amin, Mochammad Amin Alamsjah, Sri Subekti and Dwi Yuli Pujiastuti**

Journal of Applied Phycology 33: 1209–1216. 2021.

## Abstract

Postharvest processing is crucial to success in utilizing *Sargassum* sp. as a raw material in tea production. Postharvest pre-treatment and drying processes can cause fishy flavor and nutrition loss; therefore, these effects need to be understood and managed. In this study, we evaluated the effect of deodorization technique and drying method on the final quality of dried algal samples. *Sargassum duplicatum* harvested from Talango Island, Sumenep, was used in the study. Algal samples were immersed in a water suspension of *Tectona grandis* charcoal at concentrations of 5, 10, and 15 %w/v for 6, 12, and 18 h, and then dried using three different drying methods: oven drying, sun drying, and air drying. The study showed that immersion in a suspension of 15% w/v charcoal for 18 h was the best method to deodorize the algal samples reducing the amount of phenols, flavones, and fishy flavor; however, future work on optimization of deodorization of brown algae by using charcoal suspension was suggested. Different drying methods generated different final dried algal sample characteristics such as the amount of phenols, flavones, antioxidant activity, and profile of volatile compounds. Air drying was found to be the best method in this study in retaining the total phenolic content and total flavonoid content, followed by sun drying and oven drying. Overall, deodorization using charcoal from *T. grandis*, followed by air drying was demonstrated to be a set of traditional approaches successful for postharvest processing of brown seaweed for use as a tea raw material.