

# **Drying characteristics of *Orthosiphon stamineus* Benth by solar assisted heat pump drying**

## **ABSTRACT**

Processing methods of Misai Kucing still remain crude and lack technological advancements. In terms of drying, very few studies have attempted to apply advanced drying technology to improve Misai Kucing quality and drying time. This paper presents first attempt to improve Misai Kucing drying kinetics and product quality through solar-assisted heat pump drying and comparison was made against solar drying. Experimental results showed that solar-dried samples had the greatest total color change and loss of two bioactive ingredients as compared to solar-assisted heat pump-dried samples due to its longer time process, higher drying temperature, and chlorophyll degradation. By comparing the statistical values, it showed that the Page model had the best goodness of fit at all tested dried samples by both drying methods.

**Keyword:** Color change; Mathematical modelling; Misai kucing; Rosmarinic acid; Sinensetin; Solar-assisted heat pump drying