

**Title** The effect of tempering during drying on phytochemical content of Misai kucing (*Orthosiphon Stamines*)

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**Citation** Abstracts of 7<sup>th</sup> International Postharvest Symposium 2012 (IPS2012). 25-29 June, 2012. Putra World Trade Centre (PWTC), Kuala Lumpur, Malaysia. 238 pages.

**Keywords** Misai kucing; phytochemical

### Abstract

Misai kucing (*Orthosiphon stamineus*) is one of the priority herbs under Entry Point Projects (EPP) of National Key Economic Areas (NKEAs) which has been identified by Ministry of Agriculture (MOA). Most herbs including misai kucing always consume in dried form, so drying is the most important process in herbal preparation. Efficient drying technique need to be established in order to produce premium quality of herbal product for maximum health benefits. Improper drying will cause reduction in product quality especially the bioactive compounds. Continuous drying is the most common method used by herbs producer in Malaysia and its effect on phytochemical content was well documented. However, there is a need to explore other drying technique such as adopting tempering process during drying for highest retention of phytochemicals in herbs. Stopping the drying process temporarily is called tempering. So, this paper discusses the possibility to adopt tempering process during drying in misai kucing. The effect of tempering time during drying on phytochemicals retention in misai kucing was investigated by using the cabinet dryer. Tempering time for 2 hours during drying had shown better retention of phytochemicals content in misai kucing as compared with continuous drying. The drying time and drying rate were not significantly affected by tempering treatment. Tempering for 2 hours had shown better retention of antioxidant activity, total phenolics and flavonoids content. The level of rosmarinic acid which is the marker compound of misai kucing remained high after 2 hours treatment.