

4th International Conference on

PLANT SCIENCE

March 28-29, 2024 | Webinar

A comprehensive evaluation analysis of different colors of medicinal and edible honeysuckle

Zhenying Liu

Institute of Chinese Materia Medica, China Academy of Chinese Medical Sciences, China

Honeysuckle (the dried flower bud or opening flower of *Lonicera japonica* Thunb.), a medicinal and edible substance, has is greatly popular among consumers for its remarkable health effects, such as antioxidant, antibacterial, and anti-inflammatory effects. However, due to the influences of processing methods, storage conditions, and other factors, honeysuckles show different colors which can directly reflect the quality and the price on the market.

In order to comprehensively compare the quality of different colors, 55 batches of honeysuckle samples were collected and analyzed. Their color parameters, chlorophyll content (chl), total phenol content (TPC), total flavonoid content (TFC), antioxidant activity (AA), main active compounds, and metabolites were measured.

As a result, the initial green-white (GW) samples, a kind of highest-quality honeysuckle, had the

smallest a^* value, largest h^* , chl, TPC, TFC, and AA values, and highest content of chlorogenic acid and cynaroside. There was a significant difference between GW samples and a series of discolored

samples. As the color darkened or lightened, the quality gradually decreased. The yellow-brown (YB) samples were of the worst quality and were no longer available for clinical and health purposes. A series of differential metabolites, such as quercetin-7-O-glucoside and secologanin, could be used as important references to evaluate the quality of differently colored samples. The metabolic profile of honeysuckle provided new insights into the process of color change and laid a foundation for further honeysuckle quality control. The correlation results showed that the a^* and h^* values significantly affect the abovementioned quality indicators and the 10 main active compounds. In other words, the color difference could directly reflect the quality and clinical efficacy. Multiple regression analysis was carried out using combined L^* , a^* , and b^* values to predict the quality of honeysuckle. This is the first time the quality of different color honeysuckle samples on the post-harvest link has been systematically compared and a demonstration of medicinal and edible substances with different colors has been provided.

Biography

Zhenying Liu is a PhD candidate and currently pursuing a PhD in Chinese Pharmacy at the Institute of Chinese Materia Medica, China Academy of Chinese Medical Sciences, focusing on the quality of medicinal and edible substances and medical plants. He also participated in the fourth national survey of Chinese medicine resources and activities sponsored by the National Science and Technology Mission. He has presented on several occasions at the National International Forum on Food and Agricultural Product Safety Testing Technology and Quality Control. At present, he has published more than a dozen papers, applied for seven patents, and won several fellowships for his work.