Fuhua Li et al., J Nutr Food Sci 2016, 6:6 (Suppl)
http://dx.doi.org/10.4172/2155-9600.C1.029

Effects of ultrafiltration and storage on polyphenol, color and bioactivities of mulberry (*Morus indica* L.) juice

Fuhua Li[1], **Bin Zhang**[1,2], **Gu Chen**[1] and **Xiong Fu**[1]
[1]South China University of Technology, China
[2]University of Queensland, Australia

The effect of clarification by 100 and 18kDa molar weight cut-off (MWCO) ultrafiltration membranes, as well as the storage period (1-2 months) on polyphenol profile, bioactivities (α-Glucosidase inhibition and antioxidant activities) and color properties of mulberry juice (MJ) were investigated. Results indicated that ultrafiltration processing (100kDa MWCO) enriched the phenolic compounds. Comparing to the crude, the clarified MJ showed improved color, α-Glucosidase inhibition activity (αIA) and antioxidant property. However, the excessive clarification by 18kDa MWCO membrane presented more losses of MJ polyphenols due to membrane fouling. At the end of the first one month, the crude MJ showed obvious instability in both the polyphenol content and their bioactivities, which were well retained or even enhanced in the filtered juice by 100kDa MWCO membrane. At the end of storage of two months, compared to MJ stored for one month, the clarified MJ showed significant improvement in contents of phenolic acids and flavonoids, as well as the bioactivities. Accordingly, ultrafiltration processing especially for 100kDa membrane favored the preservation of MJ polyphenols and their bioactivities.

Key words: Mulberry juice, ultrafiltration membrane, clarification, storage.

Biography

Fuhua Li is studying for a PhD at School of Food Science and Engineering at South China University of Technology. Her main area of research is into naturally bioactive compounds, particularly for plant polyphenols. In detail, the composition and antioxidant activity of polyphenols, the effect of processing technology on polyphenols profile. Her research results were published in reputed journals, such as *Food and Bioprocess Technology and Journal of Functional Foods*, etc.

chengu@scut.edu.cn
lfxfu@scut.edu.cn

Notes: