

# **DEVELOPMENT OF TRADITIONAL CHINESE HERBAL DRINKS WITH ANTIOXIDATIVE PROPERTIES**

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## ABSTRACT

Nowadays, the emphasis on healthy living causes people to be aware of what they consume to improve the quality of life. Therefore, there is a demand for herbal drinks with antioxidative properties to replace less healthy commercial drinks available in the market. In this study, traditional Chinese herbal drinks with antioxidative properties were developed with chrysanthemum, ginger, dried longan arils and Japanese honeysuckle, with different amounts of wolfberries (0, 0.67, 1.33 and 2% w/v). The total phenolic content, modified ferricyanide and DPPH assays were done on fresh drinks and drinks stored for 3 days at 4°C. Fresh formulated drinks were generally found to have higher phenolic content (150.48±1.47, 163.61±3.15, 196.24±2.49 and 198.22±4.98mg GAE/100ml), reducing capacity (271.39±4.66, 316.06±1.26, 363.00±3.88 and 392.33±10.53mg Fe (II)/100ml) and lower free radical scavenging activity (95.63±0.27, 95.35±0.69, 95.10±0.28 and 93.63±0.70%) compared to stored drinks. After storage, the herbal drinks had slightly decreased phenolic content and reducing capacity but slightly increased free radical scavenging activity. QDA and hedonic tests were conducted on herbal drinks stored at room and cold temperatures (4°C). The addition of the wolfberries showed a mean increase of intensity of sweetness, bitterness, viscosity and brown colour, but a decrease in clarity for drinks stored at room temperature and cold temperatures. Hedonic testing was conducted to compare the preferences of panellists for two formulated (0.67% and 2% w/v) drinks and one commercial drink. The overall acceptability of the drinks was found to be highly correlated ( $p < 0.01$ ) with appearance, aroma, flavour and texture. Overall, although panellists preferred the commercial drink to the formulated drinks, there was no significant difference in overall acceptability for the 0.67% w/v of wolfberries. In conclusion, the formulated herbal drinks were shown to have high antioxidative activity as well as consumer acceptance, thus being an excellent alternative to commercial beverages.

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