

Preparation of Purple-Honey Mulberry Wines and Analysis of Their Functionality

廖詠新、柯文慶

E-mail: 364875@mail.dyu.edu.tw

ABSTRACT

Miao-Li No.1 Purple-Honey is a new mulberry species developed by Miaoli District Agricultural Research and Extension Station. The matured mulberries with 8 ° Brix and 0.5 % acidity and common mulberries (*Morus* spp.) with 5.6 ° Brix and 0.8% titrable acidity as a reference were used to make two types of products including brewed mulberry wine with 10-12% alcohol and mulberry liqueur with 15-16% alcohol. On quality analyses, the results were as follows. 1.Total anthocyanins reserved in the brewed wine made from Purple-Honey (271 mg/L) was higher than that from common mulberry (211 mg/L), while total phenol were 2,625 and 2,002 mg/100 mL. Likewise, liqueurs made from the two mulberries were 176 and 160 mg/L in total anthocyanins and 1,781 and 1,641 mg/100 mL in total phenols, respectively. Same trend but different for functional components content possible resulted from manufacturing processes. 2.According to HPLC analyses, the most abundant anthocyanins contained in mulberry wines were cyanidin-3-glucoside and cyanidin-3-rutinoside. 3.On total antioxidant ability, brewed wines were 91% and 85% while liqueurs were 50% and 44% for Purple-Honey and common mulberry, respectively. Similar results (88% and 82% for brewed wines, 63% and 58% for liqueurs) were observed for DPPH scavenging activities. The difference in functions was closely related to the different content in anthocyanins and phenols. 4.Hunter's L values for both brewed wines and liqueurs increased with the increase of heating temperature and time. The slight moderate change was observed for brewed wines. The decline of Hunter ' s a value was related to the deterioration of anthocyanins by heating. The increase of Hunter's b value inclined the products to yellow-brown in appearance.

Keywords : mulberry、brewed wine、liqueur、anthocyanins、total phenol、antioxidant ability

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