

不同品种樱桃酒品质分析与综合评价

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摘 要:【目的】建立一套适合樱桃酒品质评价的方法,为筛选适宜果酒加工的樱桃品种提供参考依据。【方法】对11个甜樱桃品种酿造的樱桃酒进行品质、营养物质和抗氧化能力等19项指标的测定,采用描述性统计、主成分分析与聚类分析对樱桃酒品质进行评价。【结果】不同品种樱桃酒19项品质指标均存在显著差异。主成分分析结果显示,前3个主成分的累积方差贡献率为85.736%,反映了樱桃酒品质的绝大部分信息;决定第1主成分数值的主要是酚类物质含量及抗氧化能力;决定第2主成分数值的主要是维生素C、挥发酸、总酸含量;决定第3主成分数值的主要是 a^* 。11个品种樱桃酒品质综合得分最高的是‘早大果’,最低为‘布鲁克斯’。聚类分析将11个樱桃品种聚为4类,结果与主成分得分结果相一致。【结论】找出樱桃酒品质综合评价的3个主成分,初步判定‘早大果’是适宜樱桃酒加工的优良品种,而‘布鲁克斯’不适宜果酒加工。

关键词:樱桃酒;品质;聚类分析;主成分分析;综合评价

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Quality analysis and comprehensive evaluation of cherry wine fermented from different cultivars

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Abstract: 【Objective】 Sweet cherry (*Prunus avium* L.) is one of the most popular fruits because it has an exotic flavor and is a nutrient-rich fruit, with abundant sugars, vitamins, amino acids, organic acids and polyphenols. However, it is a highly perishable fruit with difficulty in storage and transportation and thus often processed into juices and wines. The physicochemical properties and nutritional compounds of fruit wines are directly related to the genetic background of the fruits. Nutritional quality analysis and evaluation of cherry wine are important for cherry breeding and comprehensive utilization. This study was conducted to analyze the nutrient quality of cherry wine made from different cultivars, establish an effective method for cherry wine evaluation, find out the key factors influencing the nutrient quality of cherry wine, and select suitable cherry cultivars for wine processing. 【Methods】 Cherry wines made from 11 cultivars (‘Brooks’ ‘Chunxiu’ ‘Bigarreau Moreau’ ‘Hongdeng’ ‘Hongyan’ ‘Huangmi’ ‘Sunburst’ ‘Summit’ ‘Zaodaguo’ ‘Zaohongzhu’ and ‘23-24’) were used as materials for detecting 19 processing physicochemical characteristics by conventional descriptive statistics, principal component analysis (PCA) and cluster analysis. The differences among cherry wines were analyzed to screen suitable cherry varieties for processing high quality wine. 【Results】 The results showed great differences in wine quality characters among different cherry cultivars. Coefficients of variation (CV) of pH and alcohol content were lower than 10%, but higher CV values were found in other qualities. ‘Zaodaguo’ cherry wine was dark-fuchsia and possessed significantly higher contents of total phenols, flavonoids and anthocyanins, with the highest radi-

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