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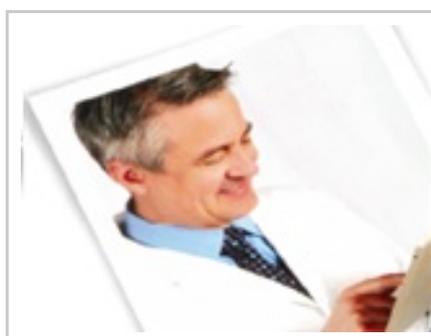
Analytical Studies

Original Paper
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Evaluation of Polyphenol Composition in Red Leaves from Different Varieties of *Vitis vinifera*

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Abstract

In order to evaluate sustainable sources of high-quality

pharmaceutical starting material, a comparative study of 135 samples of red vine leaves of different origin was conducted to determine flavonol, anthocyanin and polyphenol contents. Total flavonol content was found to be between 0.6 % and 3.5 %, anthocyanin content between 0.2 % and 1.45 % and polyphenol content between 4.6 % and 18.9 %. The results are discussed in view of published data on red vine leaf components. In order to define the optimum timeframe for collecting leaves without damaging their grape-bearing vines the ontogenetic development of red vine leaves constituents was studied. High-performance liquid chromatography (HPLC) methods used for determining anthocyanins and flavonols in red vine leaves were validated and findings were compared to results produced by assays described in the French Pharmacopoeia. Whereas the correlation between conventional photometric and HPLC methods was satisfactory for anthocyanins, the correlation between the pharmacopoeia assay for total polyphenols and the HPLC analysis for flavonols was poor. As flavonol compounds are considered relevant for the vasoprotective effect of red vine leaves, their content in starting material used in the production of herbal medicines needs to be quantified.

Key words

Vitis vinifera L. *ssp. vinifera* - Vitaceae - red vine leaves - provenances - ontogenetic development - quantitative comparison - polyphenols

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