Influence of terroir on the concentration of selected stilbenes in wines of the cv. Riesling in the Czech Republic

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The relationship between the terroir and the quality of grapes and/or wines is used in wine authenticity determination based on geographical origin. The phenolic compounds in grapes and wines are probably related to the terroir. The subject of the study was the analysis of 43 wines of the cv. Riesling from six wine-growing sub-regions, 16 different localities and four vintages to determine the content of trans-resveratrol, trans-piceid, cis-resveratrol and cis-piceid. The analyses were performed using an HPLC method. A relationship was observed between trans-resveratrol concentration in wines and wine-growing locality. The concentration of trans-resveratrol ranged from 0.04 to 0.82 mg/l with mean concentration of 0.28 mg/l. The highest concentrations of trans-resveratrol were found in wines from the localities Podmolí (0.66 mg/l), Hostěradice (0.64 mg/l and 0.82 mg/l), Mělník (0.59 mg/l) and Litoměřice (0.57 mg/l). Differences were also found in the relationship between trans-resveratrol and wine-growing sub-regions. Relationships between trans-piceid, cis-resveratrol or cis-piceid concentration and wine terroir were not demonstrated. The results of this study demonstrated the capability to differentiate the wine terroir using the trans-resveratrol concentrations.

Keywords:

authenticity; geographical origin; HPLC; resveratrol; winemaking

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