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Czech J. Food Sci.

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The contents of total polyphenolic compounds and *trans*- resveratrol in white Riesling originated in the Czech Republic

Czech J. Food Sci., 22 (2004): 215-221

Wine is a significant source of antioxidants in human nutrition. Every glass of wine contains approximately 200 different phenolic compounds, several of which have been noted as antioxidants because they have been shown to slow down the potentially damaging cell oxidation process. In white Riesling from different wine-growing sub-regions, kinds of wine, years of harvest and vintners, the content of total polyphenols (TP) was determined using spectrophotometric method, and that of *trans*-resveratrol (R) by HPLC method. The TP content was presented as gallic

acid equivalent per litre of wine, and the content of R as *trans*-resveratrol per litre of wine. TP values in the wine-growing region of Bohemia ranged from 223.0 to 532.7 mg/l (average content 330.3 mg/l), in the wine-growing region of Moravia from 175.0 to 465.0 mg/l (average content 271.7 mg/l), while R values in the wine-growing region of Bohemia ranged from < 0.033 to 0.421 mg/l (average content 0.117 mg/l), in the wine-growing region of Moravia from < 0.033 to 0.875 mg/l (average content 0.123 mg/l). The highest average TP content (370.1 mg/l) and R content (0.262 mg/l) were found in the sub-region Roudnická (the wine-growing region of Bohemia). The harvest year of 1994 was evaluated as that providing the highest average levels of TP (386.5 mg/l) and R (0.201 mg/l). The kind of wine with the highest average TP was the kind of "selected grapes" (327.2 mg/l), while the highest average R content was found in the late harvest wine (0.141 mg/l). The R and TP contents were not significantly affected by vintage, wine-growing sub-region or the kind of wine. The statistically significant correlation between TP and R content

Keywords:

wine; white Riesling; total polyphenol content; *trans*-resveratrol

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