

YIELD AND OENOLOGICAL POTENTIAL OF MONTENEGRIN AUTOCHTHONOUS GRAPE VARIETIES 'KRATOŠIJA' AND 'ŽIŽAK'

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Abstract

The influence of five different grape yields on the quality of grapes and wines of autochthonous red grapevine variety 'Kratošija' ('Zinfandel') and white grapevine variety 'Žižak', in sub-region Podgorica was investigated.

The aim of this study was to determine which yield has the best effects on grape and wine quality of grapevine varieties investigated. As result of multiyear investigation (2009 - 2012) and research of yield parameters, in order to achieve the optimal quality of grape and wine, we decided to leave different number of buds within both varieties. By different kind of winter pruning within 'Kratošija' variety it is approximately achieved yield of 6, 8, 11, 13 and 15 t/ha, while within 'Žižak' variety 6, 8, 9, 10 and 12 t/ha were achieved. During vegetation yield parameters (average number of bunches per vine, average weight of bunch, average yield per vine) and quality parameters (sugar content, pH and total acids) of grape were monitored. Average yield was determined by measuring harvested grape weight of fifteen marked vines, while average weight of bunch was determined by dividing of total grape weight by total number of bunches. Sugar content was determined using Oechesle's hydrometer, total acids and pH by potentiometric method. Wine quality parameters: alcohol content, total dry extract was determined by densitometry, reducing sugar, total and free SO₂ by titration method and total polyphenols and anthocyanins by spectrophotometric methods. Sensory analysis was done by OIV 100 points evaluation method.

Based on obtained results of 'Kratošija' variety, it was concluded that the best quality of grapes and wines achieved at yield of 8 t/ha (sugar content (23.9%), alcohol (13.49 vol%) and total dry extract (31.5 g/l)), what is also confirmed by sensory analysis (84.00). The optimal chemical (sugar content (22.8%), alcohol (14.20 vol%) and total dry extract (23.5 g/L) and sensorial parameters (86.25) of 'Žižak' variety was achieved at yield of 12 t/ha.

Key words: Autochthonous grape varieties, Yield, Grape quality, Wine quality, Sensor analysis.