



ACCEPTED MANUSCRIPT

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was helium (50 kPa). Gases for combustion were hydrogen (60 kPa) and the synthetic air (80 kPa). As an internal standard, 2-ethyl butyric acid was used. All samples of the plum spirit were analysed in triplicate.

Sensory analysis

For sensory analysis, ethanol content in middle fractions (hearts) was diluted with deionized water from 60.0 ± 0.3 % (v/v) to 45.0 ± 0.3 % (v/v). Sensory analysis of the produced plum spirits was carried out by 5 members of the expert panel. Panel members are highly experienced (between 10 and 30 years) in the sensory evaluation of fruit spirits. Buxbaum method of positive ranking used for sensory analysis is based on four sensorial characteristics of plum spirit (clearness 0-1 points, colour 0-2 points, odour 0-7 points, taste 0-10 points) rated by maximum 20 points.

Statistical analysis

A statistical package program Statistica 7 (StatSoft Inc., Tulsa, OK, USA) was used for statistical analysis. Results of the gas chromatographic analysis and sensory analysis of the spirits were subjected to one-way analysis of variance (ANOVA). Spirits produced in the same manner (with or without stones) from the plums of Slovenska Rodna and its parent cultivars, during the same year, were compared. For plum spirit ingredients or sensory characteristics by which ANOVA showed statistically significant differences, a comparison was performed using Duncan's test ($p \leq 0.05$).

For determining similarities and differences among plum spirits, a cluster analysis was performed as well, using the same statistical package. Points were scaled to a standardized scale $D_{link} D_{max}^{-1} 10^2$ (D – distance, D_{max} – maximum of linkage Euclidean distance), and that ratio on the ordinate axis is quantitative measurement of dissimilarities among plum spirits (expressed in %).

REFERENCES

1. W. Hartmann, *Flora atlas alte Obstsorten*, Eugen Ulmer, Stuttgart, 2000, p. 32-307
2. J. Ledauphin, C. Le Gallbeau, D. Baulmier, D. Hennequin, *J. Agric. Food Chem.* **58** (2010) 7782 (<https://doi.org/10.1021/jf945667>)
3. M. Gössinger, H. Sämann, *Lebensbrennerei* **54** (2002) 7
4. H. Jacob, *Acta Hort.* **734** (2007) 347 (<https://doi.org/10.17660/ActaHortic.2007.734.49>)
5. B. Popović, N. Čikićević, V. Tešević, O. Mitrović, M. Kandić, N. Milošević, I. S. Glišić, *J. Microbiol. Biotechnol.* **29** (2016) 131
6. M. Sato, M. Kostrz, P. Sroka, T. Tarko, *Eur. Food Res. Technol.* **243** (2017) 489 (<http://doi.org/10.1007/s00217-016-2762-5>)