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The influence of meteorological conditions on the phytosanitary state of vineyards in the Župa wine-growing district (Serbia)

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Abstract

There are 1,054 grape producers and 66 wineries in the Župa wine-growing district. However, no less than 40 wineries have a small annual wine production of up to 20,000 liters and vineyards have an average surface of 0.1235 ha. Such a structure of grape producers and winemakers signifies an economically sensitive group of producers susceptible to the influence of various factors, in particular changing meteorological conditions. This paper presents studies on the number of chemical treatments of vineyards, the incidence of predominant fungal diseases and the extent of the Botrytis cinerea attack. For the years 2021, 2022 and 2023, surveys were conducted among all grape producers in the Župa wine-growing district, namely for 2496 vineyards. The largest share of the number of chemical treatments in 2021 and 2022 was 5 to 6 (76.42% and 61.97%, respectively). The structure of the number of treatments in 2023 showed an equal proportion of 5 and 6 treatments (32.25%) and 7 and 8 treatments (32.24%). However, in 2023, there was also a large proportion of 9 and more treatments in the vineyard (21.44%). Regarding the predominant fungal diseases in 2021 and 2022, there was no significant attack by the pathogens. However, in the rainy year 2023, 85.33% of the vineyards had an extremely strong attack of downy mildew. As far as the occurrence of Botrytis is concerned, there was no significant attack in 2021 (87.62% of vineyards without symptoms), while in 2022 it rained in the second part of the harvest period, and in addition to vineyards without the Botrytis infestation (47.27%), there was a large proportion of vineyards with significant (19.6%) and minor Botrytis infestations (23.44%). In 2023, as many as 26.12% of the vineyards had extremely severe Botrytis attacks, while there was no Botrytis infestation on the grapes in healthy vineyards (56.94%).

Key words: phytosanitary state of vineyards, Župa wine-growing district