EVALUATION OF TECHNOLOGICAL CHARACTERISTICS OF WINE GRAPE VARIETALS IN THE VINEYARDS OF THE HOLY MONASTERY KOPORIN

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This work covers a study of agrobiologic and technological characteristics of the varieties Riesling Rhine, Riesling Italian and Tamjanika and the effect of the meteorological conditions on phenology, vigor, yield and technological characteristics. Data revealed that meteorological parameters in the examined area are having big influence on phenology and yields of the grapevine. Average precipitation sum indicates that there is an increase and change in distribution of precipitation in the last decade (Fig.1). Excessive water availability can lead to increased vigour and vegetative growth and therefore reduced light interception in the renewal zone which can potentially reduce fertility [1].

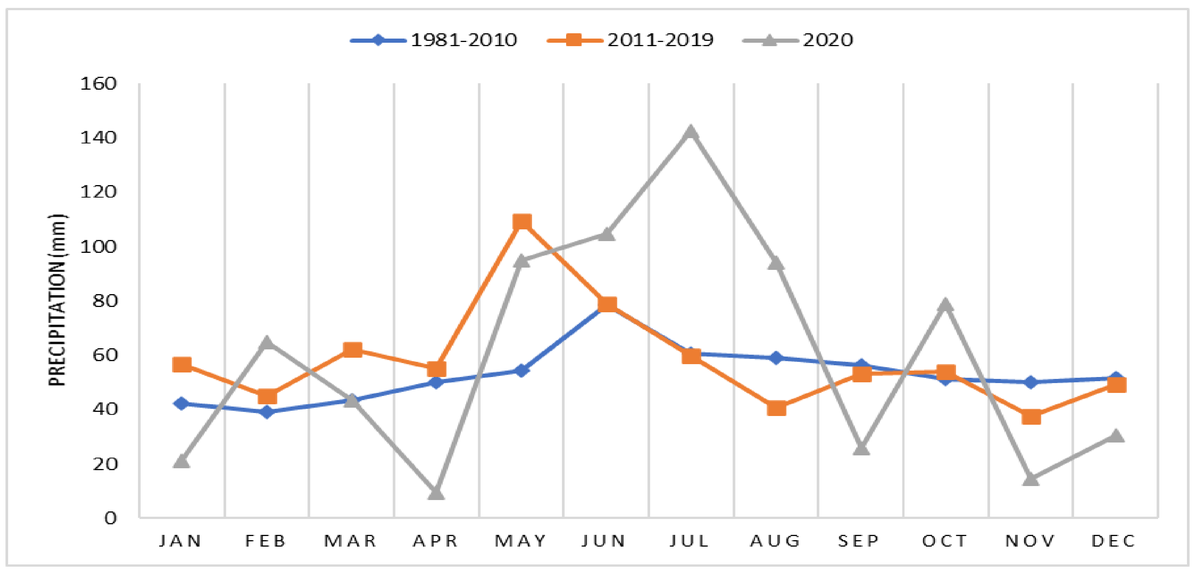

Fig.1. Average precipitation sum (mm) for periods 1981-2010, 2011-2019 and year 2020 (Smederevska palanka)

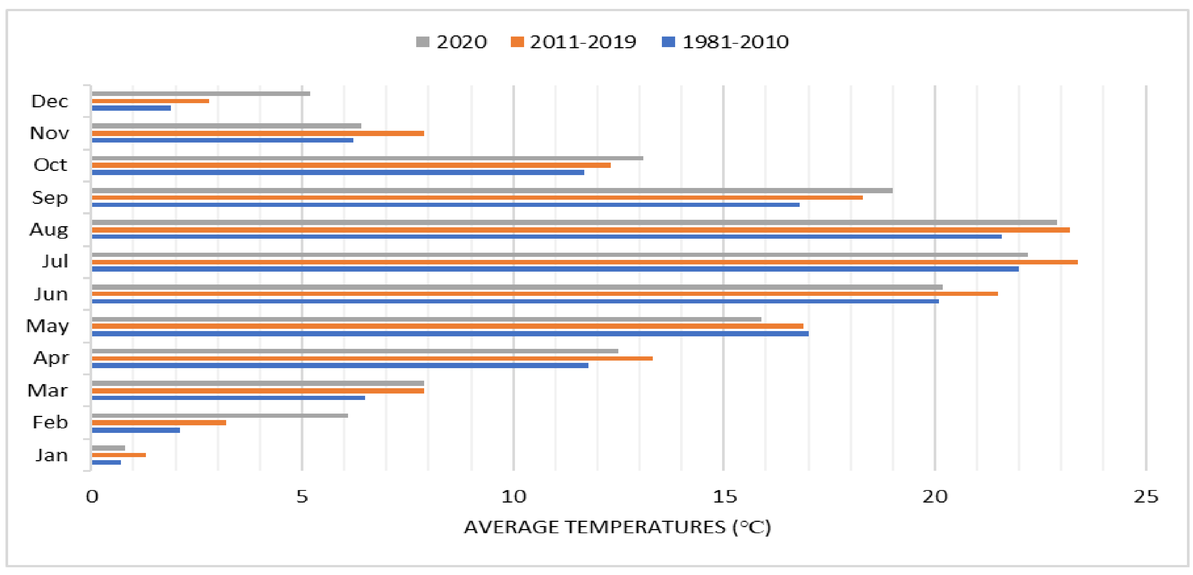

Fig.2. Average temperatures (℃) for periods 1981-2010, 2011-2019 and year 2020 (Smederevska palanka)

Average month temperatures in the last decade indicate an increase of 0.6-1.4℃ (Fig. 2). Flowering, veraison and harvest are advanced significantly because of the change in thermal conditions [2].

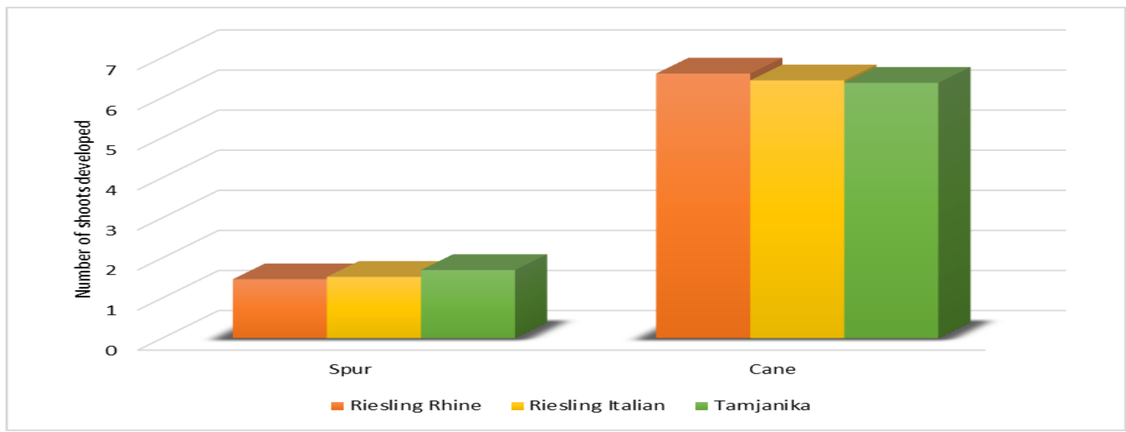

Fig.3. Average number of shoots developed on spurs and canes

The average number of shoots developed on the spur (2 buds) was 1.47 for Riesling Rhine, 1.53 for Riesling Italian, and 1.70 for Tamjanika, and number of developed shoots on the cane (8 buds) was 6.60, 6.43 and 6.37, respectively, which is 15% less than in the previous years (Fig.3). Distribution of precipitation during the vegetative period has a major influence on the vegetative growth and yield. Plant growth is strongly affected by water availability [3]. A strong water deficit at the beginning of the season negatively affects budburst since the mobilization of nutrients from the reserve structures is reduced [1].

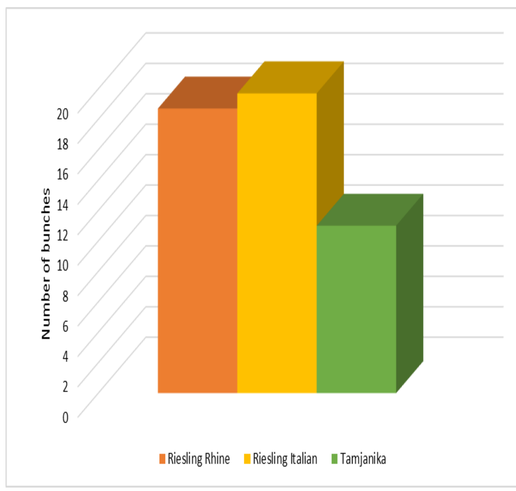

Fig.4. Average number of bunches

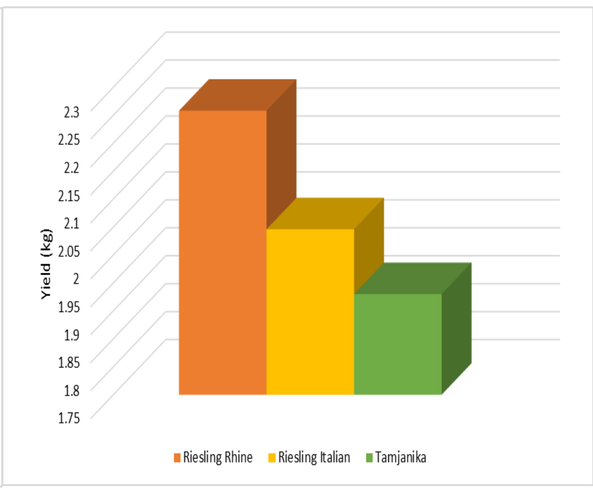

Fig.5. Average yield (kg) per vine

Average number of bunches per vine was Riesling Rhine 18.7, Riesling Italian 19.7, Tamjanika 11.0 (Fig.4), and the average yield was 2.258, 2.046 and 1.930 kg per vine (Fig.5), respectively, 10% less than in the previous years. The reduction in yield of the yearly maximum was due to fewer numbers of clusters per vine. Excessive vigor and lack of illumination can, also favor primary bud necrosis and therefore a lack of primary bud growth at budbreak and reduced fertility [4].

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