



Influence of Ecological conditions on the Physiological Parameters of Leaves and the Productivity of the Grapevine Bianca Variety

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Abstract

Environmental factors greatly influence grape quality. Grapes are a plastic plant, characterized by high responsiveness to changing environmental factors. The vineyard was divided vertically into three sites (lower, middle and upper) and other yield and quality parameters were recorded. The influence of relief elements (the exposure of the slopes and the location of bushes on them) on the morphological and physiological parameters and productivity of the Bianca variety bushes was investigated in the conditions of the Central Viticulture Zone of the Republic of Moldova. It was established that the parameters of the photosynthetic activity of the leaves — the content of plastid pigments and the induction of chlorophyll fluorescence (ChlFI) change in ontogenesis. It was presented, that the concentration of plastid pigments in the leaves increases during the flowering and growth phases of berries and decreases during the ripening phase. The level of chlorophyll a, b and carotenoids in the leaves varies, depending on the exposure of the slope and the location of bushes on them. It increases on the slopes of the SW and W exposures, compared with the NE, especially when growing in the lower, less lit areas of the slopes. At the same time, changes in the parameters of chlorophyll fluorescence induction (ChlFI) in the leaves of the Bianca variety were studied in connection with their adaptation to changing environmental conditions, which can be used for monitoring the physiological state of grape plants when they grow on the slopes of different exposures.

Keywords: Grape, Bianca Variety, Parameters of Leaves, Productivity