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**COMPARATIVE ANALYSIS OF CLONES OF THE MERLOT WINE
VARIETY GROWN IN THE MERENI WINE REGION FROM REPUBLIC
OF MOLDOVA**

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For more than 20 years, the reconstruction and improvement of vineyards has been carried out by using different certified clones of different grape varieties. Studying clones and obtaining more in-depth knowledge of agrobiological and technological potential are of great importance to justify their cultivation and further

spread. The clones differ from each other in certain characteristics (must yield, grape weight, sugar content, titratable acidity, etc.), and reactions to the impact of cultivation conditions. The clones of the Merlot variety (181, 343, 348, 347, 349) subjected to research in the Mereni wine-growing region are frequently used in other European countries, famous for the production of red wines with an intensely fruity bouquet, higher content of tannins and anthocyanins, etc.

The purpose of the work is to highlight the best clones in the terroir conditions of the Mereni wine-growing plain to obtain the red and rosé wines Protected Geographical Indication and Controlled Designation of Origin.

The clones included in the research are cultivated under the same agroecological conditions, the vines conducted by the bilateral horizontal cord, the planting scheme is 2.75×1.5 m. The quantity of grapes harvested for analysis is determined so that grapes are harvested from all marked vines. The vineyard is located on the land with the exposure of the southern and south-western slopes and the inclination of the slope, 3°-5° - 15.71 ha and 5°-8° - 3.20 ha. Altitude from 90 m to 120 m above sea level. The climate of the Mereni microregion is characterized by warm temperatures. The average annual temperature in the given region is 9.7°C, the positive temperatures are maintained for approximately 9 months, the average temperature of the hottest month - July is +23°C, and the coldest month - January +3°C.

The sum of the active temperatures higher than +10°C is included in the range from 3000°C – 3050°C. Looking at the level of ensuring the vineyard with moisture, the Mereni microregion registers an average of 420-500 mm, of which up to 380 mm fall during the warm period of the year.

The values of the sugar content in favorable years and under the terroir conditions of the Mereni plain are between 240 – 250 g/dm³ for all clones of the Merlot variety studied. The highest average weight of the grapes was highlighted for clone 348 with 264.80 g, and the lowest for clone 181 with 201.38 g.

The grape structure index obtained by the berry weight/bunch weight ratio indicates optimal values for all clones studied, varying between 34.35 for clone 348 and 38.94 for clone 347. It results from the fact that the grapes are well formed and with a percentage raised by well-developed berries.

Among all the uvological indices of grapes in the production of red wines, three indices have a particularly important role, skin, seeds and bunches, their values contribute to the enrichment of red wines with phenolic compounds. Therefore, it was observed that clone 181 obtained the lowest values for all these indices, namely, bunches - 2.73% of the weight of the grape, skin -17.77% and seeds - 3.59%, both related to the weight of the berry . Clone 181, although it has the lowest average weight of the grape, shows the highest value of the pulp ratio in the berry – 78.64%. In clone 348, the seeds account for 4.93% of the berry composition, which is also the maximum value obtained.

The climatic conditions of recent years have demonstrated the fact that the improvement of the organoleptic quality of wines is based on the improvement of the

viticultural assortment and the research of clones in the pedoclimatic conditions of each region and vitivinicultural plain.