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Rootstock effect on the composition of the Cabernet Sauvignon grape

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The interaction between rootstock, scion and environment can induce different responses to the grapevine physiology and consequently on grape composition. Vineyards of Serra Gaúcha, Brazil, are established in different soil types, each one presenting particular physicochemical properties. In this case, the experiment was carried out in a Cambisol soil. Besides this aspect, grapevines are grafted in a large diversity of rootstocks. Therefore, this research aimed to determine the effect of 15 rootstocks on the grape must of Cabernet Sauvignon (CS). Treatments consisted of the following rootstocks: Rupestris du Lot, 101-14, 3309, 420A, 5BB, 161-49, SO4, Solferino, 1103 P, 99 R, 110 R, Gravesac, Fercal, Dogridge and Isabel, which together feature genetic diversity. The experimental design was randomized complete blocks, with 15 treatments, three replications and ten vines/plot. Grapes were harvested over four years during maturity and crushed for winemaking. Then, musts were collected and centrifuged to separate the solid and liquid phases. Variables related to sugar, acidity and minerals were analyzed. Then, average data of four years were submitted to the Principal Component Analysis. Main results show that grape musts from the combinations CS/3309, CS/101-14, CS/161-49 and CS/Gravesac had higher values of density, Brix, pH and Brix/titratable acidity ratio and lower titratable acidity, which was higher with CS/R99 and CS/R110 combinations. Regarding minerals, the most remarkable result refers to K, which was found in higher concentrations in the grape musts of CS/SO4 and CS/5BB. These results show that all evaluated rootstocks can be used by growers in the Serra Gaúcha Cambisol soils.



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