Influence of the soil on sensorial characteristics of Petit Verdot tropical wines from the Northeast of Brazil

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Petit Verdot is a cultivar used in few winegrowing areas worldwide, due to the high phenolic compound concentration and high acidity. But it is an important variety for using in blends in Bordeaux-France winegrowing, between 2-5% with Merlot, Cabernet Franc and Cabernet Sauvignon. In the São Francisco Valley, Northeast of Brazil, this variety was used for winemaking varietal wines, but the only winery producing this variety stopped to produce fine wines. This cultivar presents an important characteristic to the region, low values of pH, that can help tropical wines to be elaborated focusing on stabilization, because normally commercial red wines presented high pH, due to the high concentration of potassium in the soils. The soil is very important, with the climate, to allow vines develop and produce typical grapes and wines. The objective of this work was to evaluate Petit Verdot varietal wines elaborate from grapes of vines cultivated in three types of soils, sandy, gravelly and clayey, different on physical and chemical characteristics, being sandy and clayey argisoils and gravelly cambosoil, by enologists. Vines were planted in 2002, trained in traditional lyre, grafted onto 101-14 Mgt, irrigated by drip. The three different soils were well identified and classified. Grapes were harvested in July 2011, wines were elaborated for reds, by traditional methods, 10 days of skin contact, with alcoholic and malolactic fermentation under controlled temperature (25 ± 2°C and 18 ± 2°C, respectively). Eight enologists evaluated visual, olfactory and taste of the wines. According to the tasters, wines elaborated from grapes harvested of vines cultivated on clayey soils presented high color intensity, described by red-ruby, notes of vegetal, smoke, jam fruit, alcoholic, bitterness. Wines from gravelly soils were described with same color, but notes of animal, leather, in the mouth balanced, fresh, slight bitterness. And wines from sandy soils presented the same color, chemical, vegetal and animal notes, acid, balanced and good persistence. Petit Verdot wines elaborated with grapes from sandy and gravelly soils were better noted than wines from grapes cultivated on clayey soils. As conclusion, soil influenced sensorial characteristics of Petit Verdot tropical wines, presenting different profiles according to the soil characteristics. New researches need to be carried out to best understand these characteristics, and also evaluate wines from the second semester.

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