



A new approach for assessing integrated potential conditions of soil and climate for the cultivation of vines in the Azores Islands

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Being fairly common belief that the particular soil conditions are of great importance in defining the characteristics and qualities of the wine as the final product, it is also recognized the difficulty of establishing and interpreting this relationship clearly. The geological diversity seems to correlate with the characteristics defined in accordance with the classification system employed in France Appellation d' Origine Contrôlée (AOC), suggesting that, in addition to the variety and climate, geology and soil play an important role the properties and characteristics of the grapes produced in a given geographical location. Moreover, although it is known that the vine is tailored to a wide diversity of soil types, it appears also that many of the world's most famous vineyards are installed in poor and rocky terrain where no other crop would be grown in favorable conditions. Such is the case almost extreme implanted in the land of "cracker" and "Lagido" which are the traditional names in the archipelago of the Azores to the cracked surfaces of basaltic lava fields of heterogeneous size ranging from gravel to blocks of Azorean vineyards, whose vines manage to substrate cracks survival and production, albeit in modest yields. Apart from this traditional model of Azorean "terroir" of recognized cultural and landscape value where some interesting wines have been produced and quality recognized, there are significant areas in the islands whose soil and climate and physiographic characteristics suggest a potential for wine production that deserves to be the object of careful assessment, with a view to a possible study of integrated experimental basis. We refer specifically to landscape units of the lower area of some islands, in many cases presently devoted to pasture during the summer where productivity tends to be marginal, because strongly affected by water stress. Such areas preferably South exposed and of gentle slopes providing moderate exposure to the mechanization of farming operations, comprise weakly weathered vitric soils from pyroclastic materials, well drained, mainly over pomice deposits but also of basaltic "lapilli" which, according to the Soil Taxonomy classification generally fall in the greatgroup of Udivitrands. In this preliminary study, the edaphic, climatic and physiographic characteristics of the landscape are considered based on GIS tools, in order to define the distribution of the most representative landscape units with the greatest apparent potential for wine production in some islands of the Azores.