

Studies on Climatic and Soil Site Suitability of Major Grapes-Growing Soils of Eastern and Southern Dry Zones of Karnataka

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Abstract : Climate and soils are the two most dynamic entities among the factors affecting growth and grapes productivity. Studying of prevailing climate over the years in a region provides sufficient information related to management practices to be carried out in vineyards. Evaluating the suitability of vineyard soils under different climatic conditions serves as the yardstick to analyse the performance of grapevines. This study was formulated to study the climate and evaluate the site-suitability of soils in vineyards of southern Karnataka, which has registered its superiority in the quality production of wine. Ten soil profiles were excavated for suitability evaluation of soils, and six taluks were studied for climatic analysis. In almost all the regions studied, recharge starts at the end of the May or June months, peaking in either September or October months. Soil Starts drying from mid of December months in the taluks studied. Bangalore North (Rajanukunte) soils were highly suited for grapes cultivation with no or slight limitations. Bangalore North (GKVK Farm) was moderately suited with slight to moderate limitations of slope and available nitrogen content. Moderate suitability was observed in the rest of the profiles studied in Eastern dry zone soils with the slight to moderate limitations of either organic carbon or available nitrogen or both in the Eastern dry zone. Magadi (Southern dry zone) soils were moderately suitable with slight to moderate limitations of graveliness, available nitrogen, organic carbon, and exchangeable sodium percentage. Sustainable performance of vineyards in terms of yield can be achieved in these taluks by managing the constraints existing in soils.

Keywords : climatic analysis, dry zone, water recharge, growing period, suitability, sustainability

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