São Francisco Valley Region and the autochthonous yeasts of the Brazilian Northeast

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The São Francisco Valley, situated between Pernambuco and Bahia states, is a relatively new region for grape production in the northeast of Brazil. The grape production has achieved in the last ten years a growth rate above 11\% per year. This region presents such a special environment that it makes possible to obtain from two to three harvests per year and also have harvest scheduling by means of the irrigation adjustment. These particularities give an industrial competitive advantage over the existing, producing above five million litres of fine wines per year. The region of São Francisco Valley has already obtained formally the Geographical Indication Register for table grapes and mango from the Brazilian Industrial Property Office (National Institute of Industrial Property - INPI). The wines and the sparkling wines are being particularly characterised with the same purpose. The use of selected yeast from local microflora with proper characteristics for wine production at the wineries of the São Francisco Valley is a promising strategy to distinguish tropical wines made in temperate conditions, helping to provide the regional wine typicity and identity. The main purpose of this work was to isolate and select yeasts with potentiality for wine production at the wineries of the São Francisco Valley. The grapes were collected directly from wine grapes farms in the São Francisco Valley. The yeasts were isolated from the red bunch grapes Cabernet Sauvignon and Syrah and from the white bunch grapes Itália, Sauvignon Blanc and Chenin Blanc. All these yeasts will be maintained both by cryopreservation and in slants. The yeasts were identified by Candifast® an by Auxacolor systems and they will remain in the Yeast Culture Collection at Centro Nacional de Pesquisa de Uva e Vinho - Embrapa. It was isolated 219 yeasts and determined their fermentation velocity, H_2S and killer factor production abilities. It was observed that 70\% of isolated yeasts synthesised considerable amount of H_2S. It was observed that 218 yeasts strains did not show any killer activity and did not present fermentation skill for wine production. Only one out of the 219 tested strains exhibited compatible fermentative behaviour, a maximum specific growth rate of $\mu_{max}=0.67h^{-1}$ ($r^2=0.92$), strong deficiency in producing detectable H_2S and, although it has proved to be highly resistant to killer factor, this strain did not synthesise effective killer factor. These physiological aspects have been considered

important feature for a selected strain destined for wine fermentation. The strain was isolated from Cabernet Sauvignon, codified as 45VSFCS and identified as *Saccharomyces cerevisiae*. This yeast is a promising candidate for industrial grape must fermentation at Francisco Valley region.