Summary - Grape culture was introduced in Brazil by Portuguese settlers in the 16th century, remaining as a domestic culture until the end of the 19th century. Beginning at the late 19th century, in 1875, the Italian immigrants made viticulture a commercial activity in the south of the country. American grapes culture was predominant until middle 20th century, when some *Vitis vinifera* varieties were planted to produce wine in the state of Rio Grande do Sul, and the Italia variety was diffused mainly in the state of São Paulo as table grape. For a long time Brazilian viticulture was limited to the southern and southeastern states as a typical temperate culture with one annual cycle and a winter dormancy period. In the 1960’s viticulture was expanded into the tropical regions of Brazil both for fresh fruit and for processing (wine and juice), while there was also an important grape growing area increase in the traditional temperate zones. Nowadays the grape growing area in Brazil is around 83,700 ha, producing between 1,300 and 1,400 thousand tons. Considering the year 2010, around 57% of total production was commercialized for fresh market and 43% for processing, mainly for wine and juice production. In Brazil, grape production is concentrated at the states of Rio Grande do Sul, São Paulo, Pernambuco, Paraná, Bahia, Santa Catarina and Minas Gerais. However, some grape production is observed in Rio de Janeiro, Espírito Santo, Goiás, Mato Grosso do Sul, Mato Grosso, Rondônia, Piauí and Ceará as well. Most of the grape and its products (wine and juice) are consumed by Brazilian people. Concentrated grape juice and fresh grapes are the main products exported. Diversity is the main characteristic of Brazilian viticulture: there is a wide genetic diversity on vineyards with many *Vitis vinifera* cultivars and American grapes, including *Vitis labrusca*, *Vitis bourquina* as well as many different hybrid cultivars. Besides that, grapes are cultivated in many different environments, using several production systems and cultural practices. This paper presents a general view of Brazilian viticulture and the main technological advances obtained in grape culture in the last decades. Emphasis is on new table, wine, juice and rootstocks cultivars, on new techniques and cultural practices used - mostly on tropical viticulture - and on systems of geographical origin control for wines and other products from grapes. The impact of new technologies on grapes, wine and juice production and quality are discussed, as well as their effects on the competitive capacity of different grape growing Brazilian regions.