The viticulture in the Brazilian semi-arid

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Grapevine is cultivated in many Brazilian states, and the most important production areas in 2006 were in the Rio Grande do Sul State (47,584 ha), São Paulo State (18,772 ha) and Pernambuco State (6,471 ha) (Mello, 2007a).

The Brazilian Semi-arid environment presents competitive advantages, based on the excellent climatic conditions for the vine, which allows harvest during the whole year. The Northeast stands out as the main region producing and exporting table grapes in Brazil. About 95% of the table grapes exported from Brazil are produced in this region, which amounted to 62,250 ton in 2006 (Mello, 2007b).

The São Francisco Valley is located at 9º09' S, 40º22' W, and average altitude of 365.5 m. The climate is classified as Bswh type, which corresponds to a very hot semi-arid climate, with an annual average temperature of 26.4ºC, with minimum of 20.6ºC, and a maximum of 31.7ºC; mean annual precipitation of 400 mm and relative humidity varying from 57 to 67%.

The species grown is *Vitis vinifera* L.. The most important table grape varieties are: cv. Italia and its sports Benitaka and Brazil and Redglobe (seeded); Superior Seedless, also known as Festival, Thompson Seedless and Crimson Seedless (seedless). The main wine varieties for young and aromatic wines are Shiraz and Cabernet Sauvignon (black), and Chenin Blanc and Moscato Canelli (white). The average yield of table grapes is about 30 tons/ha/year.

In the semi-arid tropical climate the vines are constantly vegetative and don´t stop their photosynthetic activity. There is no dormancy phase, which allows harvest at any time of the year, with 2.5 annual crops. Pruning and control of irrigation are decisive factors in the growing cycle of the vine. The cycle from pruning to harvest is about 90 to 130 days, depending on the variety and the season of the year.

The most important support system for the table and wine grapes is the overhead trellis or pergola. The density of plants varies from 952 to 3,333 plants/ha, and the most common row spacings are 3.5m x 3.0m, 3.0m x 3.0m and 3.0m x 2.0m. Vines are irrigated throughout the year with furrows, over-head and under-canopy sprinklers (oldest areas), and more recently with microjet and drip irrigation. The nutrients are applied through fertigation.

The management of the vineyard includes two production prunings per year. The vines are pruned to a bilateral cordon with a high load of buds from long canes and spurs. The practices of canopy management during the vegetative cycle includes shoot and leaf removal, trimming of shot tips, bunch tipping and berry thinning. The use of growth regulators is indispensable to obtain high yields and quality of fruits in tropical conditions. Hydrogen cyanamid is used to produce oproduce early and uniform bud break. After the canes and spurs are pruned, 5 to 7% Dormex is sprayed. Giberellic acid is used in three applications to increase the size of bunches (1 to 3 mg/L) and promote berry growth (20 to 50 mg/L). Cytokinins are used to improve set and amino acids and leaf fertilizers are also used to improve bunch quality.

The main phytosanitary problems are the fungal diseases (downy mildew, powdery mildew, black spot, descending death) and bacterial (bacterial cancer caused by *Xanthomonas campestris* pv. *viticola*). Pests can be also be problem when not controlled, especially mites, thrips, mealy bugs and scale. Pests are controlled with integrated management practices based on economic damage levels in agreement with the norms established for in this region.

Harvesting and handling happens all season long. Table grapes are produced for both domestic and export markets. The production area in the São Fracisco Valley is located hundreds of kilometers from domestic markets and export exit points. Therefore, careful handling, packing, cooling and transport are
essential to ensure that the grapes arrive at their destination in good condition. The domestic market extends through the whole year, while the export marketing period occurs from April to early June and from October to December. A reputation for good quality, has produced by self-imposed standards of growers and packers has resulted in a strong market volume and price. The increase in the volume of export earnings of Brazilian table grapes suggests that good methods have been adopted.

References
