Products derived of grapes are recognized for their functional appeal. Phenolics, including flavonoids as anthocyanins and non flavonoids as resveratrol, are the main compounds that confer functional properties to foods. Anthocyanins, for example, are excellent antioxidants by donating hydrogen to highly reactive free radicals, preventing the production of new radicals. In this study, it was evaluated anthocyanins content, total extractable phenolics (TEP) and total antioxidant activity (TAA), using ABTS and DPPH methods, of ‘BRS Cora’ grapes, under the rootstock ‘IAC 572’, in São Francisco River Valley, during two productive cycles: from November 2009 to March 2010 and from June to September 2010. Bunches were collected at beginning of the maturation that occurred at 61, 68, 71, 74, 77 and 82 days after fruit set (daf), in the first cycle, and at 53, 60, 65, 70, 74 and 78 daf, in the second one. The experimental design was in randomized blocks, with four replicates, constituted by five bunches. When data showed statistical significance, they were submitted to regression and correlation analyses. ‘BRS Cora’ grapes showed high anthocyanins content at harvest, corresponding to 118.24 and 452.41 mg.100 g$^{-1}$, respectively, at the first and the second semester of the year. Then, these grapes can be used to add color to juices of varieties with deficiency in this attribute. They showed higher content of TEP and high TAA, when compared to others varieties or even to other fruits. It was observed highly significant correlation coefficients for all variables analyzed.