Strawberry is rich in bioactive compounds such as vitamins C and E, β-carotene and phenolic compounds such as anthocyanins, substances related to health benefits. However, the physico-chemical and nutritional fruit is genetically determined and is influenced by several factors such as light, temperature, humidity, cropping system, fertilization and point of maturity at harvest. Thus, considering the relationship between consumption of fruits and vegetables and health is an evident need to assess the bioactive compounds of strawberry cv. Camarosa produced at different times of harvest (1st harvest: 8/24 to 9/13/2010, 2nd harvest: 09/14 to 10/06/2010, 3rd harvest: 10/07 to 10/30/2010, and 4th harvest: 10/31 to 11/23/2010). The characteristics analyzed were total phenolic content, anthocyanin and ascorbic acid. There was significant effect of time of harvest for all characteristics (Tukey's test p<0.01). The highest levels of anthocyanins and phenolics were observed in the 4th harvest, 12.98 mg cyanidin 3-glucoside 100g⁻¹ and 83.54 mg gallic acid 100g⁻¹, respectively. The ascorbic acid content was higher for the 3rd harvest fruits (38.30 mg 100g⁻¹), followed by the 4th harvest (27.79 mg 100g⁻¹). This is because from the late spring, there is an increase of ultraviolet radiation by the approach of summer. This radiation affects the bioactive compounds production, which are nothing more than secondary metabolites produced by plants in response to stresses, such as those caused by radiation. Thus, in terms of benefits to consumer health, the fruits of strawberry cv. Camarosa contain higher content of bioactive compounds in harvest time near summer.