Fruits consumption has been increasing due to their nutritional value and therapeutic effects. These foods possess different phytochemicals with antioxidant properties. Since the commercialization of some fruits is restricted to their harvest period, one of the techniques that have been developed is drying by atomization or spray-dryer, which changes the fruit pulp into powder. The aim of this work was to compare the bioactive compounds of the red mombin fresh pulp and powder obtained by the atomization or spray-dryer drying process. The pulp drying was made with a spray-dryer, using frozen pulps and maltodextrin as an adjuvant for the drying process. With the obtained powder, the following analyses were carried out: vitamin C, phenolic compounds, flavonoids and carotenoids. For the carotenoids and vitamin C, there was no significant difference among the samples; the pulp showed 1.06 mg.g⁻¹, while the powder had 1.11 mg.g⁻¹ of carotenoids. As for ascorbic acid, the pulp had 158.01 mg.100g⁻¹ and the powder, 169.05 mg.100g⁻¹. For the phenolic compounds and the flavonoids, there was a significant difference between the pulp and the powder. The amount of phenolic compounds found in the pulp was 2.06 mg.100g⁻¹ and in the powder, 6.63 mg.100g⁻¹, while the amount of flavonoids found in the pulp was 5.01 mg.100g⁻¹ and in the powder, 14.27 mg.100g⁻¹. From this data, it is possible to conclude that red mombin pulp and powder differ, when it comes to flavonoids and phenolic compounds contents, and do not show any significant differences, when it comes to vitamin C and carotenoids contents.