The knowledge of postharvest physiology of fruits have great importance like technical inputs to expand the storage time without changing their physical, organoleptic and nutritional properties. Especially for blackberry (*Rubus ulmifolius*), due a fragility of the fruit and high perishability, requiring a detection of appropriate harvest point and postharvest conditions. In this context, the objective of this study was to investigate the chemical and biochemical characteristics of blackberry, harvested at different stages of maturation, looking for marketing and consumption in natura. The blackberry cultivate Tupy was collected in three ripening stages: mature (fruit with blackened scores) (Treatment 1), intermediate (completely red) (Treatment 2) and immature (partially red) (Treatment 3). The characterization of the fruits in their respective stages of maturation included acidity, evaluated in respect of: acidity, soluble solids, maturation index, pH, vitamin C, reducing sugars, anthocyanins, and phenols. The results showed significant differences, with the ripe fruit values higher than other treatments, except for acidity (0.62% citric acid). The high content of anthocyanins on mature fruits (11.3 mg 100g⁻¹), corresponded to the increase in intensity staining in elapse of maturation. About phenols, the values were higher at the extremes, in other words, in mature and immature fruit. So, to the better utilization of blackberry in relation the analyzed parameters is recommended to consume it after ripening (CNPq/CAPES).