PHENOLIC COMPOUNDS AND TECHNOLOGICAL PROPERTIES OF CARIOCA BEAN
STORED UNDER LIGHT AND HIGH TEMPERATURE


Storage of carioca beans (*Phaseolus vulgaris* L.) under unfavorable conditions may result in an increase of cooking time and browning of grain tegument. In Brazil, when the storehouses and bins are filled with cereals and mainly soybeans, the farmers store beans under light and/or high temperature for periods up to two months. This study aims to evaluate changes in phenolic compounds and technological properties of carioca bean stored under light and under 40 °C during two months. The grains were conditioned in box germinators (100 g x 3) and stored in BOD germinator at 25 and 40 °C under dark to evaluate temperature effects and at 25 °C under light and under dark to evaluate light effects. All the treatments were maintained at 75±3 % relative humidity. There was a reduction in phenolic constituents (quantified by HPLC) of beans stored in both conditions, light and 40 °C, as compared to freshly harvested beans. The main phenolic was catechin, which decreased from 296.14 µg.g⁻¹ in freshly harvested to 165.37 µg.g⁻¹ in grains stored under light and 156.32 µg.g⁻¹ in grains stored at 40 °C during two months. There was a reduction in grain lightness, measured with a colorimeter, which varied from 66.03 in freshly harvested bean to 50.70 in grains stored under light and 53.08 in grains stored at 40 °C during two months. The cooking time did not differ in grains stored under light, by the way it increased 2.5 times in grains stored at 40 °C as compared to freshly harvested.