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RELATIONSHIP BETWEEN ENZYMATIC BROWNING AND FRUIT BIOACTIVE CONSTITUENTS IN SOME APPLE CULTIVARS

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Enzymatic browning (EB) is a serious problem during fruit processing and supply as fresh cut. The current study was carried out to evaluate the relation between EB and some fruit constituents. Eleven apple cultivars were harvested and stored at 1 ◦C for 5 months and sampling was carried out monthly. The fruit were cut in equatorial and EB monitored after 2 min. Fruit bioactive compound such as ascorbic acid (AA), total phenol (TP), total flavonoids (TF), antioxidant capacity (AC) and polyphenol oxidase (PPO) and peroxidase (POX) enzyme activity were measured at each sampling time. EB increased during fruit storage while the rate of browning was different among cultivars. The rate of browning varied across cultivars and 'Red delicious' showed the highest rate. EB were higher in red skin rather than yellow skin cultivars. AA, TP, TF and AC decreased during fruit storage. High correlation was found between EB and TP (r=0.93), TF (r=0.9) and PPO (r=0.95).

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