

Title Genetic variability of ascorbic acid biosynthesis in native and introduced apple cultivars
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Abstract

Ascorbic Acid (AA) is considered as one of the important factors in nutritional value in many horticultural crops, because of its biological role in human health. AA biosynthesis is influenced mostly by genetic potential of cultivar even if it is influenced by other factors like pedoclimatical conditions, pre and post harvest management situations or storage circumstances. In 2008, Genetic variability of 10 commercial apple cultivars, 4 natives and 6 introduced cultivars including 'Granny Smith', 'Fuji', 'Jonathan', 'Jeanne Hardy', 'Red Delicious' and 'Golden Delicious' fruits, was studied through AA content measurements at maturation phase, grown in Karaj climatic conditions situated in western side of Tehran province (Iran). The experiment was computed within Random Complete Design. It was noted that 'Sheikh Ahmad', the Iranian native cultivar, and 'Fuji' have approximately the same genetic capacity of AA biosynthesis, producing 5.005 mg and 5.272 mg in 100 grams correspondingly. The measurements of AA demonstrated that native 'Khorsijan' and 'Jeanne Hardy' can produce the lowest levels relatively as 3.853 mg and 1.582 mg in 100 grams.