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Sommario/riassunto	Fruit and vegetables nutritional value has been gaining interest for consumers and it plays an important role for human health and diet. The nutritional value is generally represented by the accumulation of bioactive molecules that are in large part constituted by secondary metabolites and antioxidant compounds. The biosynthesis of these compounds mainly occurs thorough the phenylpropanoid pathway. The accumulation of bioactive compounds is highly dependent on the plant species considered, cultivar/genotype, agronomic management, and environmental conditions before harvest and during postharvest. The preservation of the nutritional value after harvest is influenced by storage conditions, packaging systems, and postharvest treatments. Fruits and vegetables bioactive compounds content is very important for consumers, but it is also important for the produce preservation during the distribution chain as, for instance, produce with higher antioxidant compounds also have a longer shelf life. Among bioactive compounds, ascorbic acid, phenolic compounds, carotenoids, and glucosinolates represent the most important groups. The storage conditions and postharvest technologies can help to reduce the degradation or losses of bioactive compounds and even promote their accumulation. The physiological, biochemical and molecular changes can be correlated to the nutraceutical variations in pre- and

postharvest stages. The plant hormones such as ethylene and abscisic acid possess a pivotal role in the regulation of fruit and leaf senescence of produce and directly influence their nutraceutical value. The regulation of the phenylpropanoids biosynthetic pathway can lead to the preservation or improvement of produce nutraceutical value. Therefore, understanding how the accumulation of bioactive compounds can be enhanced or preserved is becoming crucial in crop and product quality. The availability of advanced molecular tools allows fast and accurate transcriptome profiling that can help in the identification of the main gene clusters that are activated or repressed under different conditions. Such data coupled with metabolomics information can provide useful information for production and postharvest management of produce with high nutritional value. In this Research Topic we collect articles focused on: new insights on biosynthesis and catabolism of bioactive molecules in fruit and vegetables and the relationship with growing conditions and abiotic stresses; the regulation of biosynthesis of bioactive compounds in fruit and/or vegetables during development and ripening: role of plant hormones and elicitors; new postharvest technologies or treatments able to promote or preserve bioactive compounds of produce; potential role of molecular studies and genetic improvement for enhanced accumulation of bioactive compounds on fresh produce.