

## **Recent advances in the regulation of citric acid metabolism in citrus fruit (Abstract)**

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### **ABSTRACT**

Regulation of citric acid metabolism during fruit ripening is a major concern of better quality fruit production. Moreover, significant involvement of citric acid in determining organoleptic fruit quality attributes, fruit storage performance and synthesis of several secondary metabolites, has led to exponential increase in research efforts in last two decades. As a result, noteworthy information on citric acid metabolism is available to the worldwide citrus industry. Recent researches indicate the relationship among citric acid biosynthesis, transportation, storage and utilization. Among citrate metabolic processes, citrate storage in vacuole and its subsequent catabolism in cytosol play an important role in regulation of citrate metabolism. This review is anticipated to summarize recent research progresses towards citrate metabolism to a scientific community. We provide an overview of citrate metabolism, postharvest physiology of citrate metabolism and influence of agro-climatic factors in citrus fruits, and highlight recent advances. Moreover, this is the first review which shows a comprehensive citrate metabolic model in citrus fruit juice sacs and it will be hallmark for citrus as well as other fruit trees in future. In addition, this review facilitates the practical implication of citrate regulatory model in regulating the fruit acidity in other non-climacteric fruits.

**Keywords:** Citric acid metabolism, citrus fruit.

