

A comparative study on quality attributes and physiological responses of organic and conventionally grown table grapes during cold storage

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Abstract

Grape berry quality and shelf life is generally associated with sensory attributes and antioxidant capacity, which are under the control of complex interactions among genotypes, environmental factors and viticulture practices. This study investigated the effect of organic and conventional management systems on quality parameters and shelf life of grape berries (*Vitis vinifera* cv. Thompson seedless) during storage. Table grapes from the two different growing systems showed different postharvest behaviors. Grape berries from organic orchard was sweeter and softer, had more desirable color parameters, higher antioxidant capacity and phytochemical compounds content than berries harvested from conventional growing orchard. Organic berries showed desirable color parameters and lower browning index, higher antioxidant enzymes activity and better edible quality than conventional ones. While lower moisture loss and decay index and higher firmness was observed in conventional berries. The findings of this study indicate that the shelf life and market value of grape berries during storage are highly related to vineyard management systems.