

Title Improving yield, quality, and shelf life of Thompson seedless grapevine by preharvest foliar applications

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Abstract

Ten-year-old Thompson seedless grape vines were sprayed during 2009 and 2010 growing seasons with putrescine (Put), gibberellic acid (GA_3), ascorbic acid (AA), ethephon (Eth), salicylic acid (SA), cytofex (CPPU) and calcium chloride ($CaCl_2$) at two stages of berry development; pea stage (4–5 mm fruitlet diameter, ~30–35 days after fruit set) and veraison stage (when approximately 20% of the berries on 50% of the clusters had softened) in order to investigate their influence on yield and postharvest fruit quality characters at commercial harvest day as well as the berry keeping quality. Cluster and berry quality characters as well as vine yield were improved by all sprayed chemicals, especially Put, GA_3 , SA, CPPU and $CaCl_2$. GA_3 increased cluster and berry width, and resulted in better clusters shape. A positive increase in berry firmness was obtained by Put, GA_3 , CPPU, SA and $CaCl_2$ sprays. Berry adherence strength increased and the percentage of unmarketable berries decreased by all sprayed compounds except Eth. Shelf life (keeping quality) was increased by spraying Put, GA_3 , SA, CPPU and $CaCl_2$, as they increased berries firmness and decreased the percentage of unmarketable berries after keeping at ambient temperature for seven days after harvest.