

**Title** Effects of modified atmosphere packaging and ethanol vapor treatment on the chemical composition of ‘Red Globe’ table grapes during storage

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### **Abstract**

The sugar, organic acid, and anthocyanin contents and antioxidant capacity of ‘Red Globe’ table grapes packaged in perforated polyethylene (PPE) or ZOEpac modified atmosphere packaging (MAP) bags, with or without different grades of ethanol vapor-generating sachets (Antimold<sup>®</sup>30, Antimold<sup>®</sup>60 or Antimold<sup>®</sup>80) or an SO<sub>2</sub>-generating pad, were evaluated during 3 months of storage at 0 °C. Fructose, glucose, malic, and tartaric acid contents remained unchanged in grapes packaged in PPE or ZOEpac bags containing an SO<sub>2</sub>-generating pad throughout storage. In grapes packaged in PPE or ZOEpac bags with or without Antimold<sup>®</sup> sachets, fructose, glucose, and malic acid contents decreased whereas tartaric acid content increased during storage due to a higher incidence of fungal decay as compared to SO<sub>2</sub> treatments. Citric acid content decreased in all treatments during storage. Anthocyanin content increased in the first 2 months of storage and then decreased by the end of storage. An Antimold<sup>®</sup>80 sachet added to ZOEpac bags resulted in higher anthocyanin content, ferric-reducing antioxidant power (FRAP) and trolox equivalent antioxidant capacity (TEAC) during storage.