Title Modified atmosphere packaging and ethanol generators to control decay of red globe table grapes during storage

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Abstract

The aim of this study is to determine efficacy of some alternative postharvest treatments to sulfur dioxide (SO_2) in maintaining quality and reducing fungal decay during cold storage of table grape cv. Red Globe. Red Globe table grapes were subjected the following treatments: 1) Modified atmosphere packaging (MAP) bags; 2) Packaging with ethanol generator (EG) pads (30, 60 or 80 grade) in MAP bags; 3) Packaging with SO_2 generator pads in MAP bags; 4) Packaging with SO_2 generator pads in perforated polyethylene (PPE) bags. Berries were then kept at 0°C for 3 months. Packaging of grapes with SO_2 pads in PPE or MAP bags provided better control of fungal decay and rachis browning than MAP alone or combination with EG pads. Packaging with SO_2 generator pads in MAP bag resulted insignificant bleaching and SO_2 residue in berries that was higher than the maximal residual level allowed of 10 ppm after 2 months of storage. MAP reduced weight loss. The treatments had no negative effect on TSS and TA and skin colour.