

Title The effect of ethanol dip and modified atmosphere on prevention of *Botrytis* rot of table grapes

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Citation ISHS Acta Horticulturae 857:227-234. 2010.

Keyword Botrytis; grape; ethanol

Abstract

Grape (*Vitis vinifera* L.) storage requires stringent control of gray mold caused by *Botrytis cinerea*. The commercial practice in Israel is dependent on sulfur dioxide (SO₂) releasing pads which can sometimes cause berry injury. We demonstrated in the past that dipping table grapes in ethanol after harvest has a very pronounced effect on prevention of decay. However, ethanol does not leave a protective residue within the grapes so it is not expected to prevent latent infections from developing decay nests during prolonged storage. However, when grapes of cv. Superior were treated with ethanol and then subjected to a modified atmosphere using plastic films (Xtend, StePac Ltd., Tefen, Israel), we achieved an additive effect and observed persistent control of gray mold without injury to the grapes. The advantage of this plastic film was mainly in its water conductance, which prevented accumulation of free water that is often the limiting factor in modified atmosphere packaging. This combination results in greater decay control which is a prerequisite for commercial applicability. If undesired aftertaste did develop within the fruit due to the modified atmosphere, one day of exposure to ambient air was sufficient to dissipate it.