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Table of Contents

2009
HORTSCI 2008
HORTSCI 2007
HORTSCI 2006
HORTSCI 2005
HORTSCI 2004
HORTSCI 2003
HORTSCI 2002
HORTSCI Home

Editorial Board

For Authors

- Authors Declaration
- Instruction to Authors
- Guide for Authors

Horticultural Science

Ethylene production in apple infected by *Gleosporium album* Ostrw. at cold storage

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[fulltext]

In ten cultivars of apple fruit, ethylene production expressed in µl/kg/h was determined. The cultivar Resista exhibited a higher ethylene production and can be differentiated from other cultivars. The production ranged from 4.2 ± 0.58 µl/kg/h in the case of Meteor cv. up to 131.6 ± 5.5 µl/kg/h in Resista cv. Infected fruit of Topaz cv. had a lower

ethylene production at cold storage temperature (3 ° C) than some healthy fruit. All examined cultivars can be divided into three clusters. Discriminant analysis and canonical correlation analysis of the examined apple fruit led to the determination of healthy and infected fruit. Values of ethylene production were analyzed on intact fruit by using headspace gas analysis by CGC with thermal desorption technique. Carbosieve G was chosen as the adsorbent material for the traps due to its relatively high affinity for light hydrocarbons such as ethylene. For a full trap of ethylene in the enrichment column the sufficient amount of percolating gas is about 0.3 l.

Keywords:

Gleosporium rot; apple fruit; ethylene production; headspace gas analysis; cultivars

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