Title Ethanol vapor could improve the efficacy of modified atmosphere packaging to control gray mold in Iranian table grape (*Vitis Vinifera* L. Cv. Shahroodi)

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Abstract

Modified atmosphere packaging (MAP) has been successfully used to keep the postharvest quality of table grapes by controlling gray mold; however the high relative humidity and gas changes inside polymeric films would limit the net efficacy of this technique during the long storage. In the present research the effect of ethanol vapor to improve the efficacy of MAP was studied. Three volumes of ethanol (4, 6 and 8 ml Kg^{-1} of fruit) were used in combination with MAP using two types of polymeric films; polypropylene (PP) and polyethylene (PE) in factorial experiment on the basis of CRD design with 3 replications. The results showed that the application of 4 ml Kg^{-1} of fruit ethanol had a significantly positive effect to control gray mold by delaying and lowering its incidence and severity. Also it was observed that the severity of decay was significantly affected by the type of polymeric films. Ours results indicate that the application of 4 ml Kg^{-1} of fruit ethanol inside PE and 6 ml Kg^{-1} of fruit ethanol inside PP led to lowest infection during 60 days at 1°C and 80-90% RH.