

Title Ethylene is required for the ripening of grape
Authors C. Chervin, A. Tira-Umphon, A. El-Kereamy, J.P. Roustan, J. Lamon, A. Latche, M. Bouzayen and
A. Kanellis
Citation ISHS Acta Horticulturae 689: 251-256. 2005
Keywords *Vitis vinifera* L., ethylene, berry growth, non-climacteric fruit

Abstract

While grapes have been classified as a non-climacteric fruit, we show here that endogenous ethylene production just before veraison is required for an increase in berry size and possibly for anthocyanin accumulation in the ripening berry. Our data also show that the peak of ethylene production just prior to veraison is associated with increased accumulation of ACC oxidase mRNAs, enhanced ACC oxidase activity and higher concentrations of malonyl-ACC. Exposure of clusters to 1-MCP at various times before and after veraison inhibited ripening only in fruit treated at the time of the ethylene peak. Lastly, we observed some feed-back at the ethylene perception level and this response is discussed in relationship to the behaviour of non-climacteric plant tissues.