

Abstract:

Grape is cultivated in irrigated arid areas of northern Mexico, such as the Comarca Lagunera, where red and black table grapes like Red Malaga produce satisfactorily, but the berries lack the typical red color, mainly because of high temperatures prevalent during fruit development (Kliewer and Torres, 1986). To reduce this problem, girdling and ethephon (2-chloroethyl-phosphonic acid) are used commercially. However, because ethylene hastens senescence (Weaver, 1976), it could result in berry softening at harvest and during storage, with a reduction in crispness and flavour. The main objective of this work was to evaluate the effect of different concentrations of ethephon and girdling on firmness during storage of Red Malaga table grapes in the Comarca Lagunera. This research was conducted in a commercial 18 year old Red Malaga vineyard established at San Pedro de las Colonias in the Comarca Lagunera, Coahuila, Mexico. Factors studied were: ethephon concentration (0, 225, 335.5, 540 and 900 g ha⁻¹) and girdling. Parameters evaluated were: firmness of the intact berry, skin and pulp. Firmness of Red Malaga grapes is determined mainly by skin + flesh (87%). Ethephon at 900 g ha⁻¹ significantly reduced firmness of the intact berry by 13.6 %, of the skin + flesh (24.9 %), and of the flesh (26.5 %), but not of the skin. Total berry firmness was determined by flesh (60%), skin (22%) and by turgidity (17%). Girdling reduced berry firmness by 9.1 %.