

Title Pre-harvest application of *Aloe vera* gel exhibits antimicrobial activity by reducing yeast, mould, and aerobic counts at harvest in several *Prunus* spp.

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Abstract

The stone fruits including sweet cherry, peach and nectarine, are highly appreciated by consumers due to their excellent organoleptic quality but also are perishable produce after harvest and the shelflife is reduced. One of the main problems leading to deterioration and quality losses is occurrence of fungal decay. The aim of this work was to evaluate the influence of pre-harvest treatments with two *Aloe vera* gels, one commercial (Avisa) and one home-made and freshly prepared on stone fruits: sweet cherry ('Prime Giant' and 'Skeena'), peach ('Rich Lady') and nectarine ('Garrofa'). Treatments were applied one day (T1) before harvest and 1 and 7 days (T2) before picking the fruit. At time of harvest, fruit were picked at commercial ripening stage and quality parameters (firmness, colour, acidity, soluble solids and respiration rate) and microbial spoilage counts were determined. Results showed that any treatment modified significantly the quality parameters, but microbial counts were significantly reduced, especially in the sweet cherry cultivars, for which 2-log reduction was obtained compared with controls, while for nectarine and peach 1-log reduction was obtained. With these results we can conclude that *Aloe vera* gel applied at pre-harvest could be a good alternative to the use of synthetic fungicides for controlling fruit spoilage in stone fruits.