

Title Influence of mist-chilling on post-harvest quality of fresh strawberries Cv. Mara des Bois and Gariguette

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Abstract

The aim of this study was to assess the impact of mist-chilling on high-grade strawberry post-harvest quality (Cultivars “Gariguette” and “Mara des Bois”). Strawberries were chilled at 2 °C using three processes: air blast chilling at 0.3 m s⁻¹ or 1 m s⁻¹ and mist-chilling at 1 m s⁻¹. After chilling, fruits were submitted to different distribution chains characterised by different handling conditions and storage temperatures (2 °C or 7 °C) and by a 12 h retailing step at 20 °C. Strawberry quality was assessed by measuring 7 parameters: weight loss, commercial loss, firmness, sugar content, acidity, colour and sensory quality. Compared to air-chilling, mist-chilling did not reduce chilling time but it reduced weight loss by 20–40%. Mist-chilling had no detrimental effect on commercial loss defined as the percentage of fruit more than 1/3 of surface affected. It did not induce any major changes on strawberry quality. Temperature fluctuations undergone during cold storage and retailing had a detrimental effect on weight loss. The beneficial effect of packaging on weight loss was confirmed.