Abstract:

Flesh browning, mealiness and softening are the main causes of postharvest deterioration of peaches and nectarines. The gas application of three concentrations of 1- Methylcyclopropene (1-MCP) (0.5; 1.0; 1.5 g/m3) was evaluated on one peach ('September Sun'), and two nectarine ('Arctic Snow' and 'Flamekist') cultivars stored for 17, 23 and 34 days at 0, 5 and 10°C. The gas was applied at 20 °C for a period of 48 hours and the different concentrations were compared with a delay cooling process done under the same conditions and with control fruit where the fruit were cooled rapidly. High incidence of flesh browning and mealiness was obtained with all the cultivars after 23 days of storage at 0 and 5°C, otherwise total reduction was attained at 10°C but with a high rate of fruit softening. 1-MCP did not reduce fruit softening at 10°C. Delay cooling reduced the incidence of mealiness in all the cultivars after 17 days of storage at all the temperatures evaluated, but high rate of softening was obtained. Although 1-MCP maintained fruit firmness, the combination with the delay cooling procedure reduced the effectiveness of the later to avoid mealiness. The best result of delay cooling and 1-MCP treatments was obtained with 'Arctic Snow' cultivar with the lowest concentration of 1-MCP evaluated.