

# Controlled atmosphere for the export of 'Miraflores' peaches

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## Abstract

The effect of controlled atmosphere (CA) on 'Miraflores' peaches was studied during a simulated long export period. Peaches were stored in two different CAs (2 kPa O<sub>2</sub> + 15 kPa CO<sub>2</sub> or 2 kPa O<sub>2</sub> + 10 kPa CO<sub>2</sub>) or in air (21 kPa O<sub>2</sub> + 0.03 kPa CO<sub>2</sub>) as control, up to 26 or 34 days at 2°C, followed by a shelf life period of 2 days at 15°C in air. There were not significant differences between CAs and control treatment in reducing weight loss (1 to 3%), maintaining the firmness (30-32 N after 26 or 34 days at 2°C and 25-30 N after 2 additional days at 15°C) and soluble solids content (12.4-13.8 °Brix). However, both CAs reduced the rate and level of decay (by 20% under 10 kPa CO<sub>2</sub> and 40% under 15 kPa CO<sub>2</sub>), the incidence of chilling injury (only 20% under CAs, compared to 85% in air), and the development of color in pulp and skin, and helped in maintaining the sensory quality. However, the use of 15 kPa CO<sub>2</sub> resulted in a slight off flavour that was not avoided during the additional shelf life of peaches. As main conclusion, it is noteworthy that the 'Miraflores' peach has a potential to be exported (until 34 days at 2°C followed by 2 days at 15°C) under a CA of 5 kPa O<sub>2</sub> + 10 kPa CO<sub>2</sub>. Higher concentrations of CO<sub>2</sub>, such as using a 15 kPa, boost the lifetime reduced decay but provided a detectable strange taste.