

**Title** Modified atmosphere packaging extending the storage life of 'douradão' peach  
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**Citation** Revista Brasileira de Fruticultura, 32(4) p. 1009-1017, 2010.  
**Keywords** *Prunus persica*; Ldpe; Chilling injury; Woolliness; Storage life

### **Abstract**

'Douradão' peach is a perishable product and when cold stored is subject to chilling injury. The objective of the experiment was to evaluate the effect of modified atmosphere packaging (MAP) and cold storage on quality and storage life of these peaches. Fruits were packed in polypropylene (PP) trays and placed inside low density polyethylene (LDPE) bags (30, 50, 60, 75  $\mu\text{m}$  thickness) with active modified atmosphere (10 kPa CO<sub>2</sub> + 1.5kPa O<sub>2</sub>, balance N<sub>2</sub>). The control was made with peaches held in nonwrapped PP trays. Fruits were kept at  $1 \pm 1$  °C and  $90 \pm 5\%$  relative humidity (RH) for 28 days and CO<sub>2</sub> and O<sub>2</sub> within packages was monitored every two days. After 14, 21 and 28 days, samples were withdrawn from MAP and kept in air at  $25 \pm 1$  °C and  $90 \pm 5\%$  RH for ripening. On the day of removal from the cold storage and after 4 days, peaches were evaluated for weight loss, decay incidence, flesh firmness, woolliness incidence, soluble solids content (SSC), titratable acidity (TA) and juice content. The results showed that MAP had influence on reducing weight loss and prevented postharvest decay. MAP of 1-2 kPa O<sub>2</sub> and 3-6 kPa CO<sub>2</sub> at 1 °C (from 50 and 60  $\mu\text{m}$  LDPE films) were effective for keeping good quality of 'Douradão' peaches during 28 days of storage, the ripe fruits showed reduced incidence of woolliness, adequate juiciness and flesh firmness. Packages of 30 and 75  $\mu\text{m}$  LDPE films were ineffective for reducing woolliness during cold storage. MAP fruits showed lower SSC and no relevant effect on TA. Control fruits did not present marketable conditions after 14 days of cold storage.