

**Title** Use of PP and PEBD films during stored of 'Roxo de Valinhos' fig at room temperature  
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### Abstract

Fig (*Ficus carica* L.) is among the twenty principal fruit types exported by Brazil. The harvest of the Brazilian fresh fig takes place in a different period of the production of the fresh fruit in Northern Hemisphere, so there are wide possibilities to export the fruit. However, due to the short shelf life of the product and inadequate conditions that fig is exposed during the transport, the producers try to reduce that effect on the product by anticipating harvest, so the fruits can arrive in Europe in commercialization condition, however in detriment of their sensorial qualities. As the refrigerated transport represents a high cost to the producers, the modified atmosphere can represent an alternative for fig conservation, once this technique together with plastic film wrapping could allow figs to be picked at more advanced maturation stage for export. The objective of this work was to evaluate the performance of the passive modified atmosphere with the use of plastic films of polyethylene of low density (PEBD) and polypropylene (PP) stored at temperature of  $20\pm 2^{\circ}\text{C}$  and relative humidity of  $85\pm 5\%$  for 7 days. The following treatments were used: (1) control, (2) PEBD  $50\mu\text{m}$ , (3) PEBD  $60\mu\text{m}$  and (4) PP  $50\mu\text{m}$ . The quality evaluation of the treatments was accomplished by measuring the concentration of the  $\text{CO}_2$  and  $\text{O}_2$  in the packages, soluble solids content, titratable acidity, pH, weight loss and appearance. Results showed that treatment (4) maintained the largest concentrations of  $\text{CO}_2$  in the packages, reaching 23.61% at the end of the storage, while the treatments (2) and (3) reached 9.54% and 9.98%, respectively. The treatments with modified atmosphere presented better quality indexes until the end of storage, because they reduced the rate of weight loss of the product. In spite of the best appearance, the treatments with modified atmosphere were not effective against decay due to the condensation of water inside the packages, facilitating the development of microorganisms. The polypropylene film with  $50\mu\text{m}$  of thickness showed to be more appropriate for maintenance of the atmosphere modified in figs, with the best performance in keeping the appearance, low values of weight loss and larger concentrations of carbonic gas in the packages.