

Title PP film is effective in keeping the quality of 'Roxo de Valinhos' fig stored under active and passive modified atmosphere at room temperature

Author Franciane Colares Souza and Antonio Carlos de Oliveira Ferraz

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Abstract

The production of fig (*Ficus carica* L.) is of great economical and social importance for Valinhos area, in the state of Sao Paulo, Brazil, and responsible for 90% of the national fresh figs production and the only export area in the country. 'Roxo de Valinhos' fig is highly perishable, with shelf life of 1 to 3 days at room conditions, and therefore the commercialization period is very short. Since conservation techniques are not usually applied in figs, the solution found by the producers for the product to arrive in acceptable condition in Europe was the anticipation of harvest, picking them in the green stage, earlier than used for the internal market fig, with harmful consequences to its flavor and appearance. In this work, 'Roxo de Valinhos' fig harvest at half mature ripening stage was exposed at passive and active modified atmosphere. The treatments used were: (1) control, (2) passive modified atmosphere (PMA) and (3) active modified atmosphere, with 20% of CO₂ and 6.5% of O₂ (AMA). For the treatments with modified atmosphere, figs were wrapped with 50µm polypropylene film (PP), and were stored during 7 days at temperature of 20±2°C and relative humidity of 85±5%. For treatments evaluation there were measured the concentrations of CO₂, O₂ and ethylene in the packages, weight loss, soluble solids content, titratable acidity and appearance during storage. The PP film was efficient in keeping high CO₂ levels in the packages for the modified atmosphere treatments, reaching at the final of storage 21.29% and 36.16% of CO₂ and 4.14% and 1.78% of O₂ for PMA and AMA, respectively. Treatments with modified atmosphere were efficient in maintaining fig quality, specially in keeping the appearance and showing the smallest weight loss, 1.72% and 2.52% for the treatments PMA and AMA, respectively, and 40.02% for control. Nevertheless, the modified atmosphere treatments did not avoid decay in the conditions of temperature and relative humidity used.