

#### Abstract:

The susceptibility of mealiness and flesh browning physiological disorders was evaluated after 3, 5 and 6 weeks on ripe 'Sweet September,' 'September Sun,' 'Ryan Sun' and 'Rosario Red' peach (*Prunus persica* (L.) Batsch) cultivars harvested at three maturities and stored under modified atmosphere packaging ((MAP) experimental bag P2UC 965 (Chile)). High incidence (>40%) of mealiness was detected in all the cultivars even at 3 weeks of storage at 0°C. 'Sweet September,' 'September Sun' and 'Rosario Red' were most susceptible to mealiness in more mature fruit. MAP reduced the incidence of mealiness after 3 weeks of storage to acceptable commercial level (<20%) only in 'Sweet September' cultivar for the three maturities evaluated. Total control of flesh browning was obtained with MAP in all the maturity levels evaluated, but was not controlled on 'Rosario Red' cultivar. High concentration of carbon dioxide was attained with MAP. This information suggests that MAP gives only partial control to physiological disorders of peaches, with mealiness symptoms being the most difficult to control.