

Accumulation of Fluorescent Lipid-Peroxidation Products During Ripening of 'Fuerte' Avocado Fruit

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Abstract. Fluorescent products (lipofuscin-like compounds) of lipid peroxidation were extracted from 'Fuerte' avocado (*Persea americana* Mill.) peels, taken from fruit at different ripening stages and following storage at 22C in the absence or presence of ethylene. Fractionation and analysis of these fluorescent compounds (FCs) in avocado peels was carried out by an improved method, based on separation of FCs from chlorophyll by Sep-Pak silica cartridges. Results show that accumulation of these fluorescent compounds in avocado peels preceded by several days the appearance of changes in ripening parameters such as decrease in fruit firmness, increase in respiration, and ethylene emanation. Ethylene-treated fruit showed a threefold increase in their FCs content as compared with untreated fruit. A six-fold increase in FCs level could be detected also in avocado fruit stored for two weeks at 5C, which did not show any detectable change in the ripening parameters mentioned above. These data suggest that lipid peroxidation may be regarded as one of the earliest detectable processes occurring during fruit ripening. Hence, an increase in FCs in avocado peel may be employed as a horticultural parameter for estimating initiation of ripening processes in avocado fruit.