HISTOLOGICAL AND BIOCHEMICAL CHARACTERIZATION OF PHYSIOLOGICAL DISORDERS IN AVOCADO (*PERSEA AMERICANA* MILL.) CV. HASS DURING COLD STORAGE, AT TWO RIPENING STAGES.

A-81

P. Undurraga[1], J. A. Olaeta[1], G. Opazo[1].

[1] Facultad de Agronomía Pontificia Universidad Católica de Valparaíso-Chile, Av. Brasil 2950 Valparaíso - Chile Correo electrónico: pundurra@ucv.cl

Avocado cv. Hass harvested at two ripening stages, 9-11% and 14-16% oil, were stored at 3 and 7 ºC in cold storage rooms. At 0, 10, 20, 30 and 40 days of storage, fruit dehydration (%), pulp resistance to pressure, epidermis color, physiological disorders and pathological damages were measured. A histological analysis and measurements of peroxidase and poliphenoloxidase activities were also carried out in healthy and physiological damaged tissues.

During the storage, for both maturation indexes and storage temperatures, an increase of dehydration, a decrease in the pulp resistance to pressure and a change in the fruit epidermis colour were observed.

Enzymatic analyses showed a higher poliphenoloxidase activity in tissues with physiological damages. The activity of this enzyme was also affected by storage temperature with higher poliphenoloxidase levels in fruits stored at 3 ºC. A higher peroxidase activity was observed in healthy tissue.

Histological analyses showed a better cellular structure and organization in fruits at the 9-11% maturity stage, although at both storage temperatures the degree of cellular disorganization increased with time. A progressive lignification of the cell wall was also observed in the fruits harvested with 14-16% oil whereas that was not the case in fruits with 9-11% oil.