AVOCADO PASTE OBTAINED BY HEAT TREATMENT A-178

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It is important to develop new procedures to offer consumers high quality avocado-based products after an acceptable time of storage. The use of scraped-surface heat exchangers (ICSR) is appropriate for the treatment of puree or mashed foods. Such kind of food contains suspended solids, forms deposits or shows a non-Newtonian reological behavior.

The objective of this work was to establish the optimal procedures, based on the physical and chemical properties of Hass avocado pulp paste, to deactivate the enzyme polyphenoloxidase as a result of a ICSR heat treatment.

Firstly, polyphenoloxidase activity was evaluated after applying direct heat to the samples in a hot plate at five different levels of temperature and for three different periods of time. Secondly, a heat treatment at 73, 80, 84, and 85º C for 10, 8, 6 and 4.6 minutes respectively was applied using the ICSR device. Samples were stored for 8 weeks. Paste microbiological quality, color, and pH were periodically assessed.

Avocado pulp paste treated at 85º C showed great microbiological stability during the entire storage period and low pH variation in comparison to the initial product. In contrast, paste treated at 73º C was microbiologically unstable and the amount of total coliforms increased during the first week of storage. Furthermore, paste pH strongly decreased during the 8-week storage period. Regardless of the heat treatment applied, paste color turned increasingly yellow along the storage period.