STABILITY OF OSMODEHYDRATED AVOCADO DURING STORAGE

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Forty percent of water content was eliminated from pieces of avocado cv. Fuerte by osmotic dehydration. Pieces of fruits were submerged in a 50% 18-22 DE maltodextrine and 10% NaCl solution for six hours. Once the osmotic process was over, avocado flesh was mashed. In order to verify the effect of storage temperature on the avocado pulp, it was stored for 80 days under the following three conditions: room temperature, cold storage (4ºC), and frozen (-20ºC). Pulp quality was assessed at 20-day intervals by measuring water content, aw, soluble solids content, salt, peroxide index, pH, and instrumental color. In all cases, samples were vacuum-packed in polyethylene bags. Results were analyzed by ANOVA and significant differences between means were determined by Duncan's test.

Pulp water content did not differ among treatments ($p < 0,05$) and ranged from 58.8 to 61.6 g per 100 g of pulp. After 80 days storage, aw was 0.91 to 0.73, the frozen pulp had the lowest value ($p<0,05$) because the water was retained as ice crystals and it was, therefore, not available. Soluble solids were 20º Brix and did not change for the entire storage period. The pH of the frozen pulp stayed constant at 4.4, whereas for pulp stored at room temperature it gradually increased to 5.2 after 60 days of storage. Peroxide index increased with storage, but the degree was different for pulp samples kept at room temperature, cold-stored or frozen. The last two had similar values for the peroxidase index after 20 days but they diverged after 40 days. The peroxide index on frozen samples increased from an initial value of 10.2 meq per kg of oil to a value of 11.7 meq/kg after 80 days of storage. At room temperature they reached a value of 20.2 meq/kg. At room temperature, color darkened at the end of the storage period due to incipient rancidity. Under refrigeration green color diminished but to a lesser extent. Pulp color on frozen samples was not altered for the entire 80-day storage period.

Defrosted pulp color did not change for up to 10 hours at ambient temperature (18ºC). Previous osmotic dehydration increased water microcrystalization and, as result, texture and flavor of defrosted pulp were enhanced. In addition, the procedure led to a reduction of weight and volume of frozen avocado pulp.

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