EFFECTS PHYSICOCHEMICAL ON *ALOE VERA* JUICE DURING OHMIC HEATING

Izaguirre- Silva, J. I[1*]., Belmares- Cerda, R[1]., Montanez-Saenz, J., Cruz- Hernandez, M.

[1]Department of Food Research. School of Chemestry. University of Coahuila. Boulevard Venustiano Carranza, 25000. *Saltillo, Coahuila, México.*

*e-mail: ivanova_28@hotmail.com

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Introduction. Ohmic heating is a condition heating technique for liquids and pumpable particles (1). It consists of equipment for passing alternative current through the fluid between electrodes(2). Ohmic heating is used in a wide range of applications such a preheating, blanching, pasteurization, sterilization (3). Its advantages compared to conventional heating include maintaining the color and nutritional value of food(4).

Methods. In this work was evaluated the effects of pH, color (Total Color Determination), soluble solids, titratable acidity, enzyme activity peroxidase (POD) (5), on *Aloe vera* juice using ohmic heating (voltages 20 and 30 cm^{-1}) at 65, 75 and 75 °C

Results. The ohmic heating treatment at the conditions mentioned early of *Aloe vera* juice, did not cause significant differences ($p \leq 0.05$) in these parameters Table 1. However the parameter titratable acidity decreased as the temperature increased. The color measurement (TCD) were not significantly influenced by both voltages and temperature the values were 1.52 to 3.07, indicating minimum difference of color to the human eye Figure 2. The effect of the treatment on *Aloe vera* juice POD can be observed in Figure 3. Residual activity of POD was affected by the temperature and voltages used, inactivating from 25 % at 65 °C/ 20 V until 51 % 85 °C/ 30 V, demonstrating that the voltage has an effect of the rate of inactivation of the enzyme.

Table 1. Effect of ohmic heating on the quality parameters of *Aloe vera* juice

Parameter*	*Aloe vera* juice by ohmic heating					
	65 °C		75 °C		85 °C	
	20 V	30 V	20 V	30 V	20 V	30 V
pH	3.49 ± 0.18[a]	3.27 ± 0.15[a]	3.32 ± 0.13[a]	3.44 ± 0.08[a]	3.40 ± 0.15[a]	3.38 ± 0.12[a]
° Brix	0.28 ± 0.02[a]	0.03 ± 0.02[a]	0.26 ± 0.02[a]	0.26 ± 0.02[a]	0.26 ± 0.02[a]	0.26 ± 0.02[a]
Titratable acidity	0.21 ± 0.01[a]	0.20 ± 0.02[a]	0.18 ± 0.02[b]	0.16 ± 0.01[b]	0.14 ± 0.01[c]	0.12 ± 0.01[c]

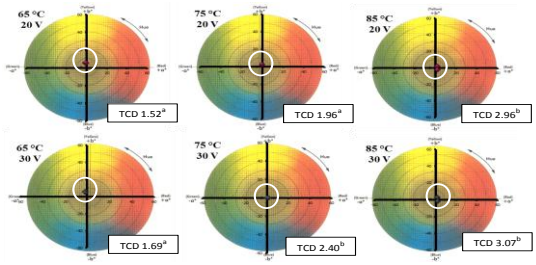

Figure 2. Plane shows the effect of temperature on the color of the samples of *Aloe vera* juice

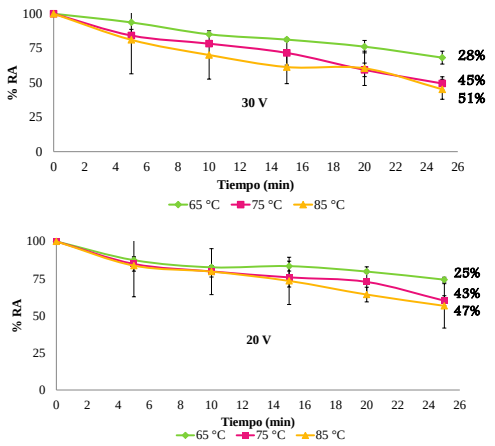

Figure 3. Determination of peroxidase enzyme on *Aloe vera* juice by ohmic heating (65, 75 and 85 °C) 20-30 V/cm

Conclusions. The ohmic heating maintaining the organoleptic properties of the *Aloe vera* juice, the maximum inactivating of the enzyme was 51% (85°C/30V/cm).

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