

Accepted Manuscript

Effect of thermosonication on polyphenol oxidase inactivation and quality parameters of soursop nectar

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PII: S0023-6438(16)30596-5

DOI: [10.1016/j.lwt.2016.10.002](https://doi.org/10.1016/j.lwt.2016.10.002)

Reference: YFSTL 5747

To appear in: *LWT - Food Science and Technology*

Received Date: 28 November 2015

Revised Date: 1 October 2016

Accepted Date: 3 October 2016

Please cite this article as: Anaya-Esparza, L.M., Velázquez-Estrada, R.M., Sayago-Ayerdi, S.G., Sánchez-Burgos, J.A., Ramírez-Mares, M.V., de Lourdes García-Magaña, M., Montalvo-González, E., Effect of thermosonication on polyphenol oxidase inactivation and quality parameters of soursop nectar, *LWT - Food Science and Technology* (2016), doi: 10.1016/j.lwt.2016.10.002.

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1 **EFFECT OF THERMOSONICATION ON POLYPHENOL OXIDASE**2 **INACTIVATION AND QUALITY PARAMETERS OF SOURSOP NECTAR**

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12 **ABSTRACT**

13 In the present study, the effect of thermosonication on polyphenol oxidase (PPO)
14 inactivation and quality parameters of soursop nectar was evaluated [at 24 kHz, average
15 temperature of 34, 44 and 54 °C, acoustic energy density (AED) (1.1, 1.2 and 1.4 W/mL)
16 and processing time (2, 6 and 10 min)]. Classical thermal pasteurization (65 °C, 30 min)
17 reduced 81% PPO activity and ascorbic acid content by 36% in comparison to fresh nectar.
18 All treatments with thermosonication at 34 or 44 °C decreased the initial PPO activity
19 between 34 and 67%; while treatments at 54 °C decrease PPO activity among 91 and 99%.
20 Also these last treatments had 90 % retention of ascorbic acid, without significant changes
21 in quality parameters. In conclusion, thermosonication can be an excellent alternative to
22 total PPO inactivation, without changes in the quality of soursop nectar.

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