

## CONCENTRATION OF ANTHOCYANIN FROM ACEROLA JUICE BY NANOFILTRATION

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Acerola (*Malpighia emarginata*, D.C.) is a tropical fruit rich in vitamin C and other compounds such as phenolic ones, which contribute for its antioxidant activity. Its red color is due to the presence of anthocyanins, water-soluble phenolic compounds that belongs to the flavonoid group. Nowadays, acerola has been processed and used for juice production and for the manufacture of vitamins and supplements. The use of membrane processes for juice concentration has been pointed out as a promising technology, due to its advantages such as processing under mild conditions, no phase change and low energy consumption. When compared to the traditional thermal methods, membranes usually promote better preservation of thermo-sensitive compounds. This study aimed to evaluate the concentration of anthocyanins from acerola juice by nanofiltration. Acerola juice was previously centrifuged and clarified by microfiltration in a polymeric membrane system. Nanofiltration was carried out in a spiral wound membrane composed by polysulfone and piperazine, at 35°C and 10 bar. Anthocyanins were quantified by high performance liquid chromatography and mass spectrometry. Nanofiltration showed an average flux of 7.1 L/h.m<sup>2</sup> and a volumetric concentration factor (VCF) of 2.96. The increase in cyanidin-3-glucoside and pelargonidin-3-ramnoside contents (2.7 and 2.5 times, respectively) were slightly lower than the VCF achieved at the end of the process, indicating that a little amount of anthocyanins was oxidized during nanofiltration, since the permeate fraction did not contain these pigments. Nanofiltration showed to be an adequate process for anthocyanin concentration, presenting good recovery and preserving the major anthocyanins of acerola juice.