

THE INFLUENCE OF ENCAPSULATION ON THE ANTIOXIDANT ACTIVITY OF GRAPE MARC EXTRACT

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Publications specializing in food industry analysis report that Europe is currently the fastest growing market for natural food colors. For this reason, most likely in the near future, synthetic additives will be replaced with natural extracts. However, when biologically active substances have not been selectively extracted, they will be mixed with other compounds that may have a different flavor. Therefore, this flavor will be transferred to the product. In such cases, encapsulation is a viable option to avoid unwanted sensory characteristics. This paper presents research on the encapsulation of grape pomace extract in β -lactoglobulin and the effect of this process on the stability of its antioxidant activity. Thermocapsulation was used to create the particles. The method used to measure the particle size was the dynamic scattering of light, while the antioxidant activity was evaluated using the radical cation ABTS.

The filter membrane has a pore size of 50 kDa, so it is likely that some polyphenols do not pass into the permeate due to the large size of the molecules. For this reason, the encapsulation process of the extract has already been filtered through the filter with the mentioned pore size was studied. Apparently, there seems to be a correlation between the initial concentration of polyphenols in solution and the particle size. However, more experience is needed to establish causation. Given that the objective is to obtain particles with a diameter of about 200 nm, the concentration of polyphenols in the solutions used in subsequent tests must not exceed 1250 mg GAE / L. The antioxidant activity of the encapsulated extract demonstrated better stability when stored for nine days at room temperature compared to the control sample.

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