[PS1.46]

Bioactive Compounds and Antioxidant Activity of Microencapsulated Camu-Camu Pulp

N.K Silva[1], V.M. Matta*[2], F.E.P. Cornejo[3], S.P. Freitas[1]

[1]Universidade Federal do Rio de Janeiro- Escola de Química, Brazil, [2]Embrapa Agroindústria de Alimentos, Brazil, [3]Universidade Federal Rural do Rio de Janeiro, Brazil

Myrciaria dubia (camu-camu) is a small red-colored berry, native of Amazonian rainforest mainly Colombia, Venezuela, Peru and Brazil. Due to its high vitamin C content camu-camu may be considered as a functional food. The antioxidant potential of camu-camu fruit can be attributed not only to its high level of ascorbic acid but also to its phenolics content. The objective of this work was to evaluate the preservation of the bioactive compounds and antioxidant activity in a microencapsulated camu-camu pulp. The frozen camu-camu pulp was supplied by a pulp fruit industry from Castanhal, PA, Brazil and stored at -18°C until processing. The drying aids (15% w/w arabic gum or maltodextrin) were added to the pulp under agitation and then filtered through a 0.4 mm sieve. The homogenized samples were submitted to evaporation in a laboratory scale spray-dryer under convective air (inlet and outlet temperatures 185 ± 5°C and 85 ± 5°C, respectively). The obtained powders were packaged in sealed bags and freeze stored. Pulp and powder were analyzed to determine total phenolics and vitamin C contents besides of the antioxidant activity. It was measured by the ABTS free radical scavenging method and the results were expressed as μmol Trolox Equivalent (TE) per gram of sample. The powder produced using arabic gum presented higher vitamin C (15,363 mg/100g) and phenolics (6,654 mg/100g) content than the powder produced with maltodextrin, 11,259 mg/100g and 5,912 mg/100g, respectively. Consequently, a higher antioxidant activity was observed for the arabic gum encapsulated powder (530.2 μmol TE/g) compared to the powder encapsulated with maltodextrin (421.6 μmol TE/g). Microencapsulated camu-camu presented very high values of vitamin C, total phenolics contents and antioxidant activity, suggesting that it can be used as an important source of health phytochemicals.

Acknowledgment: Pavuc Project and Bela Iaçá Ind. Com. Ltda.

Keywords: Myrciaria dubia, spray dryer, arabic gum, maltodextrin