

Study on retention of bioactive components of *Morinda citrifolia* L. using spray-drying

Abstract

The aim of this study was to evaluate the influence of spray drying conditions on the chemical and biological properties of *Morinda citrifolia* L. powder. The process was carried out on a lab scale spray dryer using carrageenan as a coating agent. The effect of inlet temperature and M_{core}/M_{wall} on Encapsulation Yield (EY), particles morphology and antioxidant potential were investigated. The evaluation of antioxidant potential was assessed using DPPH radical, total phenolic and flavonoid content. The highest quality of powder in terms of antioxidant capacity was produced at optimum drying temperature of 130°C using M_{core}/M_{wall} of 1/4 and at constant temperature of 150°C, the highest M_{core}/M_{wall} ratio was 1/2. The encapsulation yield was higher at higher temperature (150°C) and using M_{core}/M_{wall} of 1/4. Particle size analyzer and scanning electron microscope were used to monitor the structure and size of the powders. The results indicated that all the powders obtained were smooth spheres with size range of 1-20 μm . © 2009 Asian Network for Scientific Information.