



Nutraceutical based on jamelão peel powder

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Jamelão (*Syzygium cumini* (L.) Skeels) is a native species from India, but had been adapted to the Brazilian tropical climate. It belongs to the Myrtaceae family. This fruit has a dark-colored peel that is rich in anthocyanins. Jamelão fruit peel powder obtained by a simple convective drying process have already been evaluated and confirmed as a potential natural colorant, as well as a great source of bioactive compounds, especially anthocyanins. Since jamelão is a non-conventional fruit, produced in domestic orchards, there is no commercialization or even broad consumption by the population. Most of the fruit is wasted, which calls attention to its potential use to obtain a nutraceutical, which is a food supplement that have a concentrated form of a bioactive component from a particular food in a non-food matrix. The aim of this work was to obtain a nutraceutical based on jamelão peel powder and evaluate the capsules anthocyanins stability during 3 months of

storage. Jamelão fruits were processed to obtain their peel powder by a simple and low cost technology (convective drying), and the stability of the anthocyanins in the obtained product was evaluated. The capsules were prepared with the jamelão peel powder, which was previously sieved (150 mesh or 106 μm pore size) and encapsulated following GMP (Good Manufacturing Practices). About 30 hard gelatin capsules were produced in a manual encapsulator with size 03, and 0.2 g of the powder was conditioned in each of them. The capsules were kept in a plastic packaging of high-density polyethylene, at room temperature and under light protection, for a period of 3 months. The anthocyanin content of the capsules was evaluated by high performance liquid chromatography in 4 different periods (T0: analysis after encapsulation, T1: analysis after 30 days, T2: analysis after 60 days, T3: analysis after 90 days). The results were expressed in wet basis. For each time, powders contained in 3 capsules were mixed and homogenized, and analyzed in triplicate. The capsules with jamelão peel powder showed total monomeric anthocyanins content of 536.69 $\text{mg}\cdot 100\text{ g}^{-1}$ at T0; 486.60 $\text{mg}\cdot 100\text{ g}^{-1}$ at T1; 348.83 $\text{mg}\cdot 100\text{ g}^{-1}$ at T2 and 75.34 $\text{mg}\cdot 100\text{ g}^{-1}$ at T3. Until T2, it was observed an average retention of 65% of anthocyanins. As jamelão peel has a high content of anthocyanins, even with the observed loss, until 2 months of storage the product still presented a great content of these natural antioxidants. Considering that it was a preliminary work, the jamelão product showed a good potential for use as a nutraceutical, once its stability might be improved with other studies, such as evaluation of different capsules materials in order to reduce the water absorption.

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