

21<sup>st</sup> International Conference on

# Food Technology & Processing

October 04-06, 2018 | London, UK

## Spray dried juçara pulp and lyophilized grape pomace: Influence in the phenolic compound bio-accessibility and gut microbial growth

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This study investigates two different fruits juçara (*Euterpe edulis* Martius) which is a native tropical fruit, with a high bioactive compound content. The most valued part of juçara tree is the palm, due to that it is in extinction danger, to reverse that situation there is an effort to stimulate the use of juçara fruit. This work purpose the elaboration of a spray dried juçara pulp to be used as a product or a food ingredient. Grape culture in Brazil is located mainly in the south region. Most grape production is designate to wine making process; this industry is known to generate a residue called grape pomace. This study suggested the utilization of this by product to produce a lyophilized extract to be applied in the food industry. Both dried products have the bioactive appeal, due to a rich phenolic content. Grape and juçara powder were characterized as total phenolic content ( $4776.87 \pm 236.08$  mg total phenolics/ 100 g grape powder;  $14,084.65 \pm 521.08$  mg total phenolics/ 100 g juçara powder) and antioxidant activity ( $263.22 \pm 0.93$   $\mu$ .mol Trolox/g grape powder;  $845.43 \pm 44.77$   $\mu$ .mol Trolox/g juçara powder) using folin ciocalteu and TEAC methods respectively. In order to compare the influence of the technological treatment in the bioactive compounds bio accessibility, products were submitted to an *in vitro* digestion simulation. Grape pomace lyophilized powder had a total phenolic compound bio accessibility of 111.15% which indicates that the tested microbiota increased the phenolic content. However, no influence on the *Lactobacillus* sp., *bifidobacteria* sp., *Clostridium* sp., and *E.coli* was observed after 48 h of colonic fermentation, with all cultures maintaining 106 CFU/mL. Juçara powder had 397.9% phenolic bio-accessibility and a notorious increase of two log circles in the analysed bacteria culture. This result suggests that the spray drying methodology facilitates phenolic compound bio accessibility.

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