

**TAL 797 – Seminário**

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## **SORGHUM ANTHOCYANINS: EXTRACTION AND STABILITY**

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Sorghum (*Sorghum bicolor* L.) is an important source of bioactive compounds, such as the phenolic compounds. The 3-deoxyanthocyanidins, unique phenolic compounds in sorghum, include luteolinidin and apigeninidin. Besides their potential as natural food colorant, sorghum anthocyanins also have antioxidant activity, and then promote health benefits. The 3-deoxyanthocyanidins lack an oxygen at the C-3 position of their structure, thus they are considered more stable to heat, pH variation and additives (e.g. sulfite and ascorbic acid), compared to other anthocyanins commonly found in fruits and vegetables. This provides an advantage of sorghum over fruits and vegetables as potential source of anthocyanins for the production of natural colorants. However, in order to obtain an efficient extraction of sorghum anthocyanins, resulting in minimal degradation and high antioxidant capacity, the choice of the extraction method is important. The extraction efficiency of phenolic compounds from sorghum and other cereals is low, due to the fact that most phenolic compounds are bound to the cereal grain cell wall. Alternative extraction methods, such as microwave, accelerated solvent extraction and ultrasound have been tested in order to optimize the extraction of bioactive compounds. These technologies aim to avoid/minimize the use of organic/toxic solvents, reduce extraction time and increase extraction yields. Several studies have shown a significant reduction in extraction time and an increase in the concentration of anthocyanins from fruits using these alternative methods, compared to conventional methods. Due to the fact that anthocyanins participate in many reactions, it is believed that the type of method can also interfere in their stability.

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