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Tocopherols as bioactive compounds in different cultivars of *Gomphrena globosa* L.

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Tocopherols are lipid-soluble molecules that belong to the group of the Vitamin E compounds, playing an essential role on human nutrition and health [1]. The term "Vitamin E" was first introduced as an important dietary factor for animal reproduction and, more than 40 years later, it was associated to antioxidant properties. Nowadays, most of the researches focus on the fundamental chemistry that explains their antioxidant properties, specific location, role in biological membranes, and particularly on the benefits of these compounds for human health [1]. The antioxidant activity of tocopherols can be explained by two main mechanisms: first as scavengers of lipid peroxy radicals, produced from polyunsaturated fatty acids of the membrane phospholipids and lipoproteins, through the transfer of a hydrogen atom; and second as a singlet molecular oxygen quencher, which can oxidize membrane lipids, proteins, amino acids, and nucleic acids, among others [2,3]. In this context, our study focused on the identification and quantification of tocopherols in three different *Gomphrena globosa* L. cultivars (red, white and pink globe amaranth). The analysis was performed by HPLC and the quantification was based on their fluorescence signal response. White and pink globe amaranth revealed similar amounts of γ -tocopherol (1.04 and 1.09 mg/100 g of dry weight) and total tocopherols (1.37 and 1.38 mg/100 g, respectively). α -Tocopherol was found in higher concentrations in red globe amaranth (0.55 mg/100 g), that also presented γ -tocopherol (0.50 mg/100 g), but this was the only sample where δ -tocopherol was not detected. This latter isoform was found in low amounts in the other two cultivars in concentrations ranging from 0.05 to 0.06 mg/100 g (for white and pink globe amaranth, respectively). The results obtained offer prospects for the use of these less studied cultivars of *G. globosa* as antioxidants, making them suitable to be included in the human diet.

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