



Proceeding Paper

# Towards Enzymatic and Non-Enzymatic Antioxidant System of *C. melo* Peels <sup>†</sup>

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Melon (*Cucumis melo* L., Cucurbitaceae family) is an important horticultural crop worldwide, cultivated in temperate climate countries from America and Europe to arid areas in Asia and Africa.

Cantaloupe (*Cucumis melo* L., var. *reticulatus*) is of incredible economic worldwide diffusion due to its sweetness, juicy taste, pleasing flavour, and nutritional value. It contains huge quantities of vitamins A, C and microelements, such as potassium and magnesium, and also it was considered one of the best source of antioxidants. In particular, flavonoids and phenolic acids were found to be the most polyphenols.

Moreover, cantaloupe has been shown healthy properties; analgesic, anti-inflammatory, antioxidant, anti-ulcer, anti-cancer, antimicrobial, diuretic and anti-diabetic were reported in recent studies.

This research aims to provide additional information on peels from melons of an Italian cantaloupe cultivar. Fruits were harvested at different maturity, ranging from the unripe to overripe condition, and antioxidant enzyme (polyphenol oxidase, peroxidase, catalase and superoxide dismutase) activities were measured on crude extracts. Moreover, in order to gain a broad understanding of antioxidant system of *C. melo*, polyphenols, ortho-diphenols and flavonoids contents were carried out on peels, also to verify their potential exploitation as biomass yet rich of high-added value molecules.

Our results demonstrate that cantaloupe peels can be considered a prospective source of natural antioxidants, enzymatic and non-enzymatic, with potential applications in food, pharmaceutical, and cosmetic companies.