

ANTIOXIDANT TEAS FROM *M. charantia* AND *C. metuliferus* PLANTS WASTE

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Introduction: *Cucumis metuliferus* and *Momordica charantia* represent two species with therapeutically properties of the *Cucurbitaceae* family. This plants were adapted for cultivation in Romania, in Buzău county, and have been the subject of the present research. *M. charantia* and *C. metuliferus* have been widely used for various traditional Asian medicinal purposes and commonly consumed as vegetables. Moreover, various antioxidant, antiviral, antidiabetic and immunomodulatory properties have been demonstrated in various studies[1,2]. More and more farmers are interested in growing and marketing these fruits on the local market not only in the countries of origin but also in other countries. These species are productive and very little sensitive to diseases and climatic conditions. Next, we paid special attention to the fact that the leaves of the plants after the fruit harvest are usually discarded. In the future, by conducting in-depth studies, these leaves from agricultural waste will be able to become useful products for human nutrition and health from a new perspective in the form of tea.

In this study we aim to highlight the chemical composition and antioxidant properties of *M. charantia* and *C. metuliferus* tea leaves, therefore obtaining a phytotherapeutic product from waste material.

Material and methods: A preliminary phytochemical study was performed on tea leaves of *Cucumis metuliferus* and *Momordica charantia*. We performed the identification and quantification of different classes of compounds, by UV-Vis or HPTLC methods, as well as the determination of antioxidant activities, by DPPH and TAC methods.

Results: The teas were prepared by infusing the leaves with water at 100°C. *C. metuliferus* infused tea leaves contains a high amount of flavonoids, while *M. charantia* infused tea leaves contains a higher amount of polyphenols. Both teas presented impressive antioxidant activities.

Conclusions This study demonstrated the variety of the chemical composition in flavonoids and polyphenols in the teas obtained from both species as well as a good antioxidant capacity. By the HPTLC method, chlorogenic acid was detected in considerable amounts in both varieties of tea. In conclusion, vegetable waste can be used in the future and used in products such as commercial teas, both for widespread use and for therapeutic purposes.

Keywords: leaf waste, tea, antioxidant activity, bioactive compounds.

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