

FIRST INTERNATIONAL CONGRESS OF
DANUBE REGION BOTANICAL GARDENS
(IC -DRBG)

Transdisciplinarity in Plant Science

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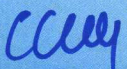


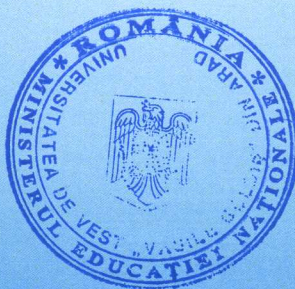
CERTIFICATE of ATTENDANCE

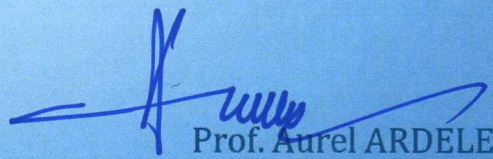
This certificate is presented to

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Transdisciplinarity in Plant Science


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Phytochemistry and Phytomedicine

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0.32.

Green Biosynthesis of Selenium Nanoparticles using Parsley
(*Petroselinum crispum*) Leaves Extract

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In the last years, the biosynthesis of nanoparticles showed an increasing interest due to their large applicability, including the development of medicines and nutritional supplements. Selenium (Se) is an essential trace mineral with various biological effects such as regulation of the thyroid gland function and anti-carcinogenic agent against different types of cancers. In high concentration, Se is a toxic metal, but Selenium nanoparticles (SeNPs) have a lower toxicity and also possess efficacy in increasing the activities of seleno-enzymes. Various physico-chemical and biological methods (using microorganism and plant extracts) have been reported in literature for SeNPs synthesis. The aim of this study was to use the parsley (*Petroselinum crispum*) leaves extract in order to prepare SeNPs by an eco-friendly method. The obtained SeNPs were characterized by using various analytical techniques such as dynamic light scattering (DLS), UV-Vis spectroscopy, Fourier Transform Infrared Spectroscopy (FTIR) and Atomic Force Microscopy (AFM). DLS method revealed a diameter of around 100 nm and an apparent zeta potential value of -14.2 mV. On the other hand, the parsley leaves extract was characterized from point of view of total phenols content, vitamin C and antioxidant capacity (FRAP and CUPRAC assays) in order to evidence the potential properties as biocatalyst or natural stabilizers for SeNPs synthesis.

This study reports for the first time a green approach for SeNPs biosynthesis by using parsley leaves extracts.

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0.33.

Variation in Content of Polyphenols and Antioxidant Activity of Two Purple Basil Cultivars Grown under Chemical and Organic Fertilization

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In order to assess the possibility of using some biological fertilizers as a sustainable alternative to the chemical fertilization of basil crop (*Ocimum basilicum* L.), a comparative experiment was conducted. Two purple basil varieties available on the market of Republic of Moldova and Romania were seeded directly in the field, without irrigation, under the experimental conditions of “V. Adamachi” research farm of UASVM Iasi. The applied fertilizers were: Biosolids (40 tonnes ha⁻¹); organic (Orgevit® - 600 kg ha⁻¹); microorganisms based fertilizer (Mycoseed® - 60 kg ha⁻¹), chemical (NPK 20:20:20 - 300 kg ha⁻¹) and control (no fertilization). In terms of assimilatory pigments content, chemical and microorganisms