

==== POSTER ABSTRACTS ====

**Morphological, Physiological and Biochemical Investigations of the *in Vitro* Plants of *Sedum Telephium Ssp. Maximum L.***

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As the „*in vitro*” cultivation of species of *Sedum* is concerned, the specialty literature does not have scientific papers regarding the gathering of this type of material that could be exploited as a source of active principles. We highlighted the presence of these anthocyanins only at the level of plant inoculum of *Sedum telephium* ssp. *maximum* L., as this interesting phenomenon was not observed in the case of the organs belonging to plants cultivated in natural conditions. The presence of anthocyanins in the root apices is a novelty in the specialty literature. While analyzing the results regarding the reaction of plant inoculum of *Sedum telephium* ssp. *maximum* L. produced by the propagules cultivated in the medium of *Murashige - Skoog* (1962) (MB - MS) with an input of different growth regulators, which stood at the basis of the experiments carried out within the monitorisation of the reactions of the explants of *Sedum telephium* ssp. *maximum* L., at the presence in the cultivation sub-layer that we modified, we have noticed -at the root apices of the plants cultivated in MB – MS mediums with input of different growth regulators, using 1.5 mg/l from each of them-, a raspberry-redcoloration of the apices of the small roots regenerated at the level of different types of explants, either propagules, or callus regenerated from the propagules. These particular reactions observed at the level of plant inoculum of *Sedum telephium* ssp. *maximum* L. determined us to lead our investigations towards the examination of these cells with an optical microscope. After the examination with an optical microscope of the root apices of the „*in vitro*” plants of *Sedum telephium* ssp. *maximum* L. or of the small roots regenerated at the

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level of callus, we inferred the fact that, both the calyptra cells and the meristem (situated under the apex) have been coloured in red, especially in the case of the plant inoculum cultivated in the MB – MS medium, with a supplement of the mixture KIN and ANA (1.5mg/l from each of them).

*Sedum telephium* ssp. *maximum* L. calluses grown on *Murashige-Skoog* (1962) growth media supplemented with 2,4-dichlorophenoxyacetic acid (2,4-D) and benzyladenine (BAP) showed a red coloration of the vacuolar content of some of their cells. It was determined that this phenomenon is due to anthocyanins accumulation under the influence of the growth regulators. Using HPLC analysis, it was found that the highest overall anthocyanins concentration was in calluses grown on medium supplemented with 1.5 mg/l 2,4-D + 2.5 mg/l BAP. Furthermore, the type of the growth regulators (cytokinines or auxines) added individually or as a mixture (in different ratios) in the growth medium, can influence the callus growth rate and what type of anthocyanins is produced preferentially. Also, to the best of our knowledge, this is the first time that the presence of cyanidin 3-glucoside in *Sedum telephium* ssp. *maximum* L. calluses, was reported.