

=== POSTER ABSTRACTS ===

***In Vitro* Organogenesis of *Amaranthus Retroflexus* L. with Biotechnological Applications in Glycerol Degradation**

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Glycerol is a secondary product from biodiesel production that is transformed in other useful compounds for polymer industry. The two enzymes that are involved in this process are lipase and decarboxylase.

Our experiments used a very robust plant species (*Amaranthus retroflexus*), that grows on different types of substrate and in a variety of stress conditions (drought, frost, flooding, etc.) to test its survival on culture media with carbon source replaced by glycerol. After aseptic seed germination, plantlets were grown on a calus induction culture medium Gamborg (MS basal medium enriched with NAA and Kinetin). The non-morphogenetic calus obtained was cultivated on four variants with ascending the quantity of glycerol replacing the sucrose as a carbon source.

The survival and the growing rate of the caluses are factors that induce the conclusion of succesful degradation of glycerol by *A. retroflexus*. Further biochemical analyses will reveal the biodegradation pathways and the secondary compounds production.

This could be a viable soution for the polymer industry that uses polyglycerol (one of the sub-products). It offers a solution for consuming the big quatitites of produced glycerol that afects the waste waters and the natural habitats. It could be a challenge for plant biotechnologies to help the industry having a positive impact to the environment.

Acknowledgements This study was supported by Program Partnerships in Priority Domains – PN II developed with the support of MEN-UEFISCDI, Project no.273/2014.

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