

==== POSTER ABSTRACTS ====

Indirect Organogenesis of *Symphytum Officinale* L.

Smaranda Vântu ^{1,✉}

Symphytum officinale L. is a perennial plant belonging to the Boraginaceae family. The presence of polyphenols, triterpenoids and tannins in this species represents a promising source of natural compounds with high antioxidant activity (Dreger *et al.*, 2009). "In vitro" cultivation of *Symphytum officinale* L was initiated in order to evaluate the cell dedifferentiation and redifferentiation, as an unconventional alternative for plant biomass multiplication (Haaß *et al.*, 1991; Huizing *et al.*, 1983).

The initiation of *Symphytum officinale* L. cultures aimed not only to assess the dedifferentiation capacity depending on explant origin and growth regulators, but also to develop a multiplication protocol based on indirect regeneration through shoots, followed by roots development induction. The proliferative capacity was tested on leaf and shoots explants, cultivated on Murashige-Skoog basal medium, testing two auxins: naphthalenacetic acid (NAA) and indolyacetic acid (IAA) and two cytokinines: kinetine (K) and benzylaminopurine (BAP).

The MS medium with 1.0 mg/l IAA and 0,1 mg/l BAP proved to be the best for callus induction from leaf explants. Shoot regeneration was achieved after subculturing the calli on MS medium, supplemented with 1.0 mg/l BAP and 0,1 mg/l IAA. It was found to be the best for multiple shoot regeneration from callus through organogenesis. Root system development was achieved on MS medium without growth regulators. Rooted shoots (plantlets) were gradually acclimatized.

¹ "Al. I. Cuza" University, Faculty of Biology, Iasi.

✉ **Corresponding author: Smaranda Vântu**, "Al. I. Cuza" University, Faculty of Biology, Iasi
E-mail: s_vantu@yahoo.com

REFERENCES

- Dreger, M., Stanisławska, M., Krajewska-Patan, A., Mielcarek, S., Mikołajczak, P.L., Buchwald, W. (2009) Pyrrolizidine alkaloids—chemistry, biosynthesis, pathway, toxicity, safety and perspectives of medicinal usage, *Herba Pol.*, **55**(4), 127-47
- Haaß, D., Abou-Mandour, W., Blaschek, G., Franz, F., Czigan, C. (1991) The influence of phytohormones on growth, organ differentiation and fructan production in callus of *Symphytum officinale* L., **10**(8), 421-424
- Huizing, H.J., Pfauth, E.C., Malingré, T.M., Sietsma, J.H. (1983) Regeneration of plants from tissue- and cell suspension cultures of *Symphytum officinale* L. and effect of *in vitro* culture on pyrrolizidine alkaloid production, *Plant Cell, Tissue and Organ Culture*, **2**(3), 227-238