Drought-induce variation in growth rate, dry matter, flavonoid and phenolic content of soybean cultivars

S.A.Tidke[1], S.Kiran[1], G.Kosturkova[2] G.A Ravishankar[1]
[1] DayanandaSagar Cllege of Engineering (Visvesvaraya Technological University),
[2] Plant Biotechnology, In Vitro Development and Genome Regulation Institute of plant Physiology and Genetics,Bulgaria Academy of Sciences 1113 Sofia, Bulgaria

Abstract:

Soybean (*Glycine max* L Leguminosae) is an important grain legume that is not only a valuable oil seed crop but also used as feed for livestock and aquaculture. Soybean genotypes viz., CO-1 and JS 335 were used for the study of drought-induced variations in growth. The present investigation was undertaken to study the effect of two concentrations of PEG on callus induction of soybean genotypes. Seeds of soybean were inoculated on M. S. medium supplemented with two different concentrations of PEG (2% & 4%) cultures were incubated at 26±2°C under 16 h photo periods. The effect of different concentration of PEG on callus induction was investigated. *In vitro* callus cultures of both genotypes (CO-1and JS 335) showed a reduction in callus growth during PEG treatment as compared with the control. The presence of PEG in the medium elevated dry matter content in all treatments compared with the control. Similarly flavonoid levels and phenolic contents were higher in the PEG treatments in comparison to control. Our results can be used for *in vitro* screening and manipulations of soybean cultivars for improvement of drought tolerance.

Keywords: , Flavonoids, *Glycine max*, phenolic,PEG ,RGR,DM

Image:

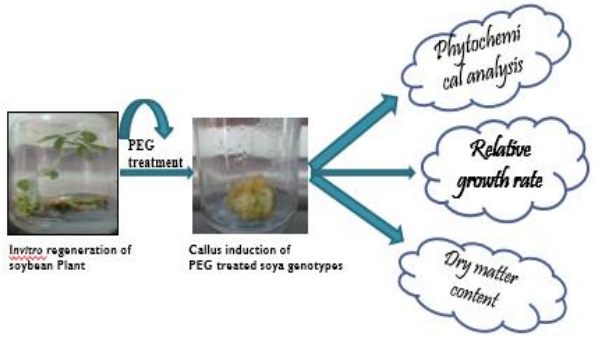


Figure 1: Figure illustrating the fundamental question that We are attempting to solve experimentally: what is the importance of PEG to the nutraceutical level of soybean plants and also showed the presence of bioactive compound such as flavonoid , phenolic, isoflavone Relative Growth Rate and Dry Matter Content

Recent publications:

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Biography

Shashank A Tidke, PhD Research Scholar in Visvesvaraya Technological University, Belagavi, Karnataka, India. His specialized area is Plant Biotechnology and Molecular biology. He has done Master in Plant Biotechnology. So Far he has published five research papers and three review articles in peer reviewed journals.

Email: shashank.tidke08@gmail.com