J Biotechnol Biomater 2018, Volume: 8
DOI: 10.4172/2155-952X-C3-095

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

Shashank A Tidke
Visvesvaraya Technological University, India

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 MS medium supplemented with two different concentrations of PEG (2% and 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.

shashank.tidke08@gmail.com