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Acclimatization of in vitro cultured plants for in vivo condition

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The benefit of any *in vitro* propagation only be fully realized if there is successful transfer of plantlets from tissue-culture vessels to ex vitro conditions. A substantial number of micro propagated plants do not survive on transfer from *in vitro* conditions to greenhouse or field environment as plantlets developed within the culture vessels under low level of light, aseptic conditions contribute a culture-induced phenotype that cannot survive the environmental conditions when directly placed in a greenhouse or field. Plantlets or shoots that have grown in vitro have been continuously exposed to a unique microenvironment that has been selected to provide minimal stress and optimum conditions for plant multiplication. The culture conditions that promote rapid growth and multiplication of shoots often results in the formation of structurally and physiologically abnormal plants. Many a times they are characterized by poor photosynthetic efficiency, malfunctioning of stomata and a marked decrease in epicuticular wax. Understanding these abnormalities is a prerequisite to develop efficient transplantation protocols. The major abnormalities in in vitro culture of plants and the current and developing methods for acclimatization of in vitro cultured plantlets will be discussed.

Biography:

Prof. B N Hazarika, PhD presently working as Dean, College of Horticulture and Forestry, CAU, Pasighat, Arunachal Pradesh. Prof. B N Hazarika guided a number of PG &Ph D students, handled several externally funded research projects and organized 90 trainings. He has published 80 research papers, published 20 books, 25 conference papers and book chapter, 11 practical manual, 25 Bulletins, edited 13 souvenir and 245 popular articles. He contributed significantly in collection, morphological and molecular characterization of diverse genotype of various fruit crops, standardized good agricultural practices for some major fruit crops; introduced new fruit crops in the region;