

Plant Genomics

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Over-expressing sodium transporters in soybean for salt tolerance improvement

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Recent climate change leads to higher temperature and rise in sea level, which results in expanding salinity affected areas and imposes a significant threat to agricultural production in Vietnam and worldwide. A number of genes regulating salinity tolerance have been identified to regulate salt tolerance through export of Na⁺ out of cytoplasm into vacuole and to apoplasm. In this study, we developed transgenic soybean over-expressing individual salinity tolerant genes NHX1, AVP1 and SOS1. These genes were assembled under control of 35S promoter to constitutively drive gene expression throughout life cycle of the soybean plants. The transgenic plants over-expressing individual genes having normal growth with good gene expression will be evaluated for their performance under salinity stress. If results are positive, this investigation will be significant for understanding roles sodium transporters in salt tolerance of soybean.

Biography

Truyen Quach has completed his PhD from University of Missouri. Currently, he is the Head of the Department of Plant Physiology, Biochemistry and Product Quality at Field Crops Research Institute, Vietnam. His lab is focusing on plant genetic engineering to improve plant adaptation to stresses and application of QTL on crop improvement.

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