

Isolation of cowpea genes conferring drought tolerance: Construction of a cDNA drought expression library[#]

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Abstract

The main objective of this study was to identify and isolate the genes conferring drought tolerance in cowpea. A cDNA library enriched for cowpea genes expressed specifically during responses to drought was constructed. A procedure called suppression subtractive hybridisation (SSH) was successfully employed to obtain these differentially expressed transcripts. The library consists of 4 160 individual clones. Preliminary sequencing results identified two clones to be known stress-related plant genes (GST (glutathione-*S*-transferase) and PR-1 (pathogenesis-related protein-1)). Micro-array analysis will be performed on the library's clones to verify their differential expression during drought conditions, and to identify additional clones for further investigation. Promising genes can eventually be used to genetically engineer crops for drought tolerance to improve food security in water-stressed areas.

Keywords: cowpea, drought tolerance, suppression subtractive hybridisation (SSH)