**Title:** **Bioengineering maize with c-repeat binding factor 1 (CBFI) as a strategy towards drought tolerance**

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**Abstract:** Africa is a drought prone continent making farming risky especially to small-scale farmers who depend on rain-fed agriculture. Maize is the most widely grown staple crop in, Africa with more than 300 million people depending on it as their main food source. Drought leads to crop failure, hunger and poverty and this is being worsened by climate change. There is therefore need to develop drought tolerant maize. Conventional breeding methods have been applied in the development of drought tolerant crops but are limited by their demand for labour, time and space, offering a narrow genetic diversity within genotypes and transfer of unwanted traits along with the desired ones. These limitations are overcome by using these methods together with bioengineering. Drought induces a range of physiological and biochemical responses in plants at cellular and molecular levels. These responses involve induction of genes with diverse functions. Plant modification for enhanced drought tolerance is mostly based on the manipulation of either transcription and/or signaling factors or genes that directly protect plant cells against water deficit. C-repeat binding factor (CBF) is a transcriptional factor that interacts with the dehydration responsive element (DRE), a cis-acting promoter element that regulates gene expression in response to drought, salt and cold stress. Over expression of these transcription factors, increases stress tolerance to freezing, dehydration and high salinity. In this study, three maize inbred lines and one hybrid were transformed with CBF 1 gene and selected with mannose using the Phosphomannose Isomerase (PM I) gene. Genetic transformation was done through Agrobacterium tumefaciens and PCR was used to determine transformed plants. Transformation frequency, transformation efficiency and regeneration efficiency were compared among the different genotypes transformed. There were no significant differences in transformation frequency among the four maize genotypes. CML216 had the highest transformation efficiency and regeneration efficiency followed by A188. No putative transgenic plants were regenerated from TL27 and A188xTL18 under the conditions applied due to their low regenerability. Further molecular analysis and drought stress experiments on the transgenic maize developed are necessary before commercial release. Availability of drought tolerant maize would have a great positive impact against hunger especially in Africa