Stress molecular physiology of *Jatropha curcas* seeds

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ABSTRACT - *Jatropha curcas* L. is an oilseed species that is considered a source of biofuel. The Federal Government of Brazil considers it as a major potential crop to support family agriculture farming in order to alleviate poverty in the Northeastern semi-arid region of Brazil. In order to attain this, the species needs to be domesticated as a crop to be grown and cultivated under the natural stressing conditions of the semi-arid. Therefore, the present study aimed at characterizing the physiology of *J. curcas* during the early stages of its life cycle, i.e. during seed imbibition and seedling growth, under the combined conditions of water restriction and high temperatures and their influence on seed germination and reactivation of growth. Morphological and anatomical characteristics were analyzed in parallel with immunocytological analysis of the accumulation of tubulin as marker for reactivation of the cell cycle and growth. In addition, the expression of a number of stress-associated genes was monitored during germination and seedling growth under the various stress conditions.