

Heat-shock responses in two leguminous plants: A comparative study

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Relative growth rates, basal and acclimated thermotolerance, membrane damage, fluorescence emission, and relative levels of free and conjugated ubiquitin and HSP70 were compared after 2 h of treatment at different temperatures between *Prosopis chilensis* and *Glycine max* (soybean), cv. McCall, to evaluate if the thermotolerance of these two plants was related to levels of accumulation of heat shock proteins. Seedlings of *P. chilensis* germinated at 25°C and at 35°C and grown at temperatures above germination temperature showed higher relative growth than soybean seedlings treated under the same conditions. The lethal temperature of both species was 50°C after germination at 25°C. However, they were able to grow at 50°C after germination at 35°C. Membrane damage determinations in leaves showed that *P. chilensis* has an LT50 6°C higher than that of soybean. There were no differences in the quantum yield of photosynthesis (F_v/F_m), between both plants when the temperatures were raised. *P. chil*