Effects of high temperature on concentrations of soluble sugars and quercitol of Cork oak (Quercus suber) seedlings

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Titre	Effects of high temperature on concentrations of soluble sugars and quercitol of Cork oak (Quercus suber) seedlings
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Auteur	Rached-Kanouni, Malika [1], Alatou, Djamel [2], Sakr, Soulaiman [3]
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Résumé en anglais	The cork oak forms real cork woods which exploit an undeniable part the socio-economic plan in the Mediterranean basin. All times the multiple aggressions (overgrazing, repeated fires...), as well as the drought caused by the climate change (high temperatures) involving deteriorations and return the ecosystem to cork oak very sensitive to natural regeneration. To develop the problems and the causes affecting the reconstitution of the subericulture, the recourse to assisted regeneration and the various forestry treatments are a great need for the maintenance of its habitat. Regeneration by natural sowings remains insufficient whereas the forestations are generally lacking following none the control of the techniques of breeding of the seedlings in seedbed, and with the transplant shock due to the abrupt change in thermal conditions when moved from standard seedbed conditions to those of plantation sites often challenged with cold or heat stress. With an aim of evaluating the physiological behavior of cork oak with respect to the high temperatures, an experiment was led in conditions controlled in a culture room. Sowings of cork oak are cultivated in controlled conditions at 25°C and a 16-hr photoperiod. We have measured the content soluble sugar (sucrose, glucose, and fructose) and the content quercitol in the various organs of these sowings. Four thermal stresses (38, 40, 42 and 44°C) were applied; the results show that there is a significant reduction in the content soluble sugar. However, this species accumulates quercitol in these various organs to face the thermal stress (high temperatures). - See more at: http://www.ijmsbr.com/comming-soon-volume-1-issue-6/#sthash.Smh64jOR.dpuf [4]
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