

Inter-Specific Differences in Leaf Phenology, Growth of Seedlings of Cork OAK (*Quercus suber* L.), Zeen Oak (*Quercus canariensis* Willd.) and Their Hybrid Afares Oak (*Quercus afares* Pomel) in the Nursery

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Abstract : Leaf Life Span (LLS) is used to classify trees into two main groups: evergreen and deciduous species. It varies according to the forms of life between taxonomic groups. Co-occurrence of deciduous and evergreen oaks is common in some Mediterranean type climate areas. Nevertheless, in the Tunisian forests, there is no enough information about the functional inter-specific diversity among oak species, especially in the mixed stand marked by the simultaneous presence of *Q. suber* L., *Q. canariensis* Willd. and their hybrid (*Q. afares*), the latter being an endemic oak species threatened with extinction. This study has been conducted to estimate the LLS, the relative growth rate, and the count of different growth flushes of samplings in semi-controlled conditions. Our study took 17 months, with an observation's interval of 4 weeks. The aim is to characterize and compare the hybrid species to the parental ones. Differences were observed among species, both for phenology and growth. Indeed, *Q. suber* saplings reached higher total height and number of growth flushes than *Q. canariensis*, while *Q. afares* showed much less growth flushes than the parental species. The LLS of parental species has exceeded the duration of the experiment, but their hybrid lost all leaves on all cohorts. The short LLSs of hybrid species are in accordance with this phenology in the field, but for *Q. canariensis* there was a contrast with observations in the field where phenology is strictly annual. This study allowed us to differentiate the hybrid from both parental species.

Keywords : leaf life span, growth, hybrid, *Q. afares* Pomel, *Q. suber* L., *Q. canariensis* Willd

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