



*Department of Science
for Nature and
Environmental
Resources of the
University of Sassari*



*Forestry and Wood
Research Centre of the
Italian Council for
Agricultural Research and
Economics*



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Istituto per lo Studio
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INTERNATIONAL CONGRESS ON CORK OAK TREES AND WOODLANDS

Conservation, Management, Products
and Challenges for the Future



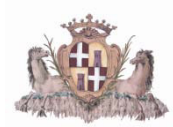
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Tipiditappi



*Sughero d'albero fatto a pezzetti,
tipi di tappi , quelli che vuoi.
Tagliali lunghi, tagliali stretti,
tipi di tappi, fatti da noi.
Taglialo bene, taglialo tondo,
tipi di tappi, quanti ne vuoi.
Tappi di sughero per tutto il mondo,
tipi di tappi fatti da noi.*
(Cecchi-Tognolini, Filastrocche e Canzoni)

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ORAL PRESENTATION

Session 1: *Ecology, ecophysiology, health and genetic resources*



ONE YEAR MONITORING OF BUD BREAK PHENOLOGY IN A FAIR 202 (GRIGHINE, SARDINIA) INTERNATIONAL FIELD TEST

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Phenology, the study of recurrent biological events and biotic and abiotic factors that determine them, allows to know how a species respond to seasonal environmental events. In phenological traits analysis, the variance components due to the climate effects as well as the genetic one are important. These traits are characterized by high heritability and genetic variability and are considered important adaptive traits, able to influence species distribution and fitness in response to variations of air temperature and water availability. The monitoring of phenology is considered a useful tool to investigate the species adaptability in a climate change scenario.

In the framework of the Sardinian regional project “Cork Oak woodland multifunctionality” bud break phenology of 15 *Quercus suber* L. provenances, randomly distributed on 15 blocks, were monitored in Grighine IUFRO - FAIR CT 1 95 0202 (1996-2000) experimental field test (Oristano, Sardinia, Italy; 8°48'53 "E; 39°55'35" N; 410-440 m asl). There, 17 genetic entries (provenances and progenies) were tested. This material is representative of the cork oak Mediterranean range.

Between 25.03.2016 and 28.05.2016, once a week, flushing data were collected according to a scoring method. As monitoring was carried out on adult trees, bud break was observed on terminal bud of lateral branch, using and comparing the international BBCH method and the standard protocol defined for oaks at European level by TREEBREEDDEX and Trees4Future Projects.

For monitored provenance data were analyzed to know both the main flushing critical dates (onset and cessation) and dynamics of shoot elongation. Logistic interpolation was used to estimate bud break daily dates starting from weekly observations.

Keywords: *Quercus suber*, cork oak, provenances, phenology, adaption