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Silviculture of Mixed Forests in Europe

Report from a workshop related to COST Action FP1206, European mixed forests - Integrating Scientific Knowledge in Sustainable Forest Management (EuMIXFOR), held in Arezzo, Italy, on 28-29 May 2015

<http://www.selvicoltura.eu/index.php?L=E&ID=20766&CERCA=workshop#20766>

By Piermaria Corona, past Coordinator of IUFRO 4.02.06 (<http://www.iufro.org/science/divisions/division-4/40000/40200/40206/>)

This workshop was carried out in the framework of the activities of the EuMIXFOR Cost Action. It gave participants direct insight into and experience of the practice and potential of the silviculture of mixed species forests. Particular, though not exclusive emphasis was placed on Europe, evaluating the ecosystem services and the forest functions, from boreal Canadian forests to Mediterranean coppice stands, and from natural forests to plantations.

Presentations addressed the multifaceted perspectives of the functions and silviculture of mixed forests. The emergence of environmental and ecological values of mixed stands was highlighted, interactions among species were evaluated and, the management challenges were underlined.



Photo by Nicola Puletti

The meeting was hosted by the Italian Council for Agricultural Research and Economics - Forestry Research Centre (CRA-SEL) Arezzo, Italy and co-sponsored by IUFRO Units 1.01.06 (<http://www.iufro.org/science/divisions/division-1/10000/10100/10106/>) & 4.02.06, the Italian Society of Silviculture and Forest Ecology (SISEF), and the Italian Academy of Forest Sciences (AISF).

A total of 57 experts representing 13 countries (Canada, Croatia, Estonia, France, Germany, Italy, Poland, Portugal, Serbia, Slovak Republic, Spain, Sweden, United Kingdom) participated in the meeting. 15 oral contributions, divided in three sessions, and 8 posters were presented. Discussion topics covered the following themes:

a) Current mixed tree species silviculture. The main silvicultural models and systems to manage both high forest and coppice mixed stands were presented, with a focus on the problems linked to thinning practices and regeneration methods. The impact of silvicultural systems on stand structure, biodiversity, growth and radial increment were analysed. Also the conversion methods (i.e. how to transform pure stands into mixed stands) and the nurse crop methods for regeneration were discussed.

b) Enhancing ecosystem services in mixed forests. The positive effects of mixtures on productivity (wood and NWFP), amenity, stability (soil conservation, water and nutrient regulation) and efficiency were highlighted both for natural stands and plantations. One of the issues raised was whether the mixture can influence resilience and resistance and reduce the negative effects due to particular biotic damages or abiotic events.

c) Global Change (climate change, land use change, biodiversity loss). The close-to-nature and systemic silvicultural systems were presented as approaches capable of counterbalancing the impact of global change. The stand productivity, analysed under pure and mixed stands along a climate gradient, undergoes relevant changes depending on the climate.

A study tour in the Colline Metallifere (Grosseto) was arranged to visit mixed coppices with Turkey oak prevailing, managed according to single-tree silviculture in order to preserve the biodiversity and to enhance sporadic forest tree species with valuable timber.

A special EuMIXFOR issue collecting the manuscripts of oral and poster presentations will be published after a peer-review process by the international open-access journal ANNALS OF SILVICULTURAL RESEARCH:

<http://cra-journals.cineca.it/index.php/asr/about>