



EURAF European Agroforestry Federation

- Newsletter N°14, November 2015 –

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1. EURAF ACTIVITIES

EURAF activities have been highly relevant during the last two months. EURAF delegates have been pushing agroforestry in different large events organized by the European Commission. Most of the Civil Dialogue Groups (CDG) were carried out in November with the participation of EURAF delegates Rosa Mosquera and Andrea Pisanelli in the meeting dealing with Direct Payments and Greening. In the Environment and Climate Change CDG meeting EURAF was represented by members Gerry Lawson, Fabien Balaguer and Nuria Ferreiro, who were defending the role of agroforestry within the climate change framework. In the CDG meeting of Rural Development it was highlighted that most of the Rural Development Programmes were approved by the Commission, both Andrea Pisanelli and Oscar Crespo represented EURAF in the meeting. Oscar Crespo together with Nuria Ferreiro are preparing a session within the Arable Crops' meeting dealing with cereals during the next year. Rosa Mosquera and Gerry Lawson attended on behalf of EURAF the Forestry and Cork meeting, where new investments on forestry sustainability issues were promised. There were also several European Innovation Partnerships (EIP) events, on which EURAF has an important role. For instance, EURAF (Robert Borek, Fabien Balaguer, Adolfo Rosati) participated in the EIP-AGRI seminar on Knowledge Systems (Promoting creativity and learning through agricultural knowledge systems and interactive innovation), organized in Dublin on 3th-4th December. All EURAF members were very satisfied with the organization of the event, its outputs and the programmed work among the different farmers involved.

EURAF's president, Rosa Mosquera, was selected as an expert for the [mixed farming systems](#) focus group, where she will highlight the important role that agroforestry systems play at EU level. She was also invited to participate in the First Sweden Agroforestry Conference meeting, which was held in Gothenburg during 13th – 15th November 2015. The conference was a success, and the new Nordic Agroforestry Federation will be created and become a member of EURAF. EURAF's president also presented agroforestry in a Parliamentary event organized by Charles Burriel, leader of the agroforestry educational project called [AgroFE](#). The event was a real success and highlighted the need of good professionals and good education systems to provide agroforestry professionals that are needed to implement agroforestry. On 17th November, an EIP meeting was held, where national Ministries from France, Finland, Sweden, Spain and Portugal, defended together with EURAF the need of having an Agroforestry Focus Group. This will be evaluated by DG Agri.

To end this Newsletter, all Delegates of EURAF would like to wish you Merry Christmas and a really Happy New Year with lots of success for Agroforestry.

Source: María Rosa Mosquera Losada (EURAF President), December 2015.

2. REGIONAL AGROFORESTRY NEWS

2.1 Event on “Montado” in Lisbon (Portugal)

More than 130 private and public stakeholders participated in the seminar entitled “O Montado e a Cortiça” (“Cork Oak Stands and Cork”) that took place in the Instituto Superior de Agronomia ISA (School of Agriculture), University of Lisbon, on 25th September. The event was organized by the [Centro de Estudos Florestais](#) (Forest Research Centre), a research unit of this School that develops research on this type of agroforestry system.



The seminar integrates a series of events under the topic “from research to application”, that are developed to promote knowledge transfer from researchers to stakeholders. These kinds of events are considered a priority by the Portuguese stakeholders associations, since they allow participants to learn about recent research results and how these can contribute to improving their management and production activities.

This was the second seminar dedicated to the cork and cork oak stands. The first edition took place in 2014 and resulted in a very positive feedback, encouraging the researchers of the Centro de Estudos Florestais to organize a second event this year.

Figure 1: Seminar announcement

The 2015 edition program was organized in two panels: “SOIL AND WATER MANAGEMENT” and “CORK AND DEBARKING OPERATION”. The speakers presented results from current research on the impact of water availability on tree growth, root system structure, the impact of debarking on tree physiology, the impact of debarking intensity or cork caliper, or the impact of management practices on soil quality, among other subjects.

The seminar ended after a round table that included representatives from Centro de Estudos Florestais, [UNAC](#) and [APCOR](#). During this round table, discussion on the needs of future research, and knowledge transfer between the scientific, production and industrial sectors was carried out and open to participants.

The presentations (in Portuguese) and the book of abstracts are available [here](#).

§Source: Joana Amaral Paulo (EURAF Deputy Treasurer), November 2015.

2.2 | Agroforestry activities in Bulgaria

In September, the collaboration among Romanian colleagues from the National Institute for Research and Development in Forestry “Marin Dracea”, Romania (INCDS), and Bulgarian colleagues from the Forest Research Institute – Bulgarian Academy of Sciences (FRI-BAS) continued successfully under the project “Investigations on the effectiveness of agroforestry systems to improve productivity and environmental quality of coastal lands along the Danube”. The project is funded by Romanian Academy of Sciences (RAS) and Bulgarian Academy of Sciences (BAS). The leaders of the project are Dr. Lucian Dinca (Romania) and Dr. Vania Kachova (Bulgaria). Two visits were exchanged in Bulgaria and in Romania. Stations of fast-growing tree species in Svishtov (Bulgaria) and in Baragan (Romania) were visited, where foresters from the two countries have experimental plots on compatibility of different tree species and shrubs, and host different trials. The Baraganul Experimental Station is the biggest in Romania, covering 300 ha of forestry experimental plots but also hunting and park areas. Also forestry nurseries near the village of Gulyantsi (Bulgaria) and the town of Tulcea (Romania) were visited, where some clones of poplars and willows are grown for afforestation activities along the Danube. The Danube Delta is one of the richest spots in biodiversity in Europe and holds great possibilities for green tourism in connection to the existing silvopastoral practices.



Figure 2: Agroforestry in Bulgaria

In September, Dr. Vania Kachova also visited the University of Santiago de Compostela (Lugo, Spain) under the ERASMUS+ program about teaching mobility and exchange of experiences in the field of agroforestry, hosted by Prof. Maria Rosa Mosquera Losada, Head of the Crop Production Department. During the mission, experimental stations of the University were visited, where private cooperative forest lands with *Castanea* plantations have been reconciled with breeding of pigs and the successes of this agroforestry practice are obvious. Moreover, the afforestation of Galicia in the 80s with *Pinus radiata* and *Eucalyptus* changed completely the landscape. Currently, measures to tackle the emergent problems and change the trend are being implemented, promoting autochthonous broadleaved species.

Source: Vania Kachova (Bulgarian Academy of Sciences, Sofia, Bulgaria), October 2015.

3. FEATURED FARM: “Darliner” farm (Italy): toward self-sustaining production of food and energy

“Darliner” is a small-scale farm constituted in 2010 by Veronica and Stefano, with their 3 young sons (Giorgio, Flavio and Emiliano). The farm is located in the southwestern part of Umbria Region, Central Italy. Around the farm, a mosaic of agroforestry systems, at different levels of complexity, characterizes the rural landscape. Olive groves, often managed in combination with pasture or intercropped with cereals, and vineyards are the most common agricultural crops on hilly lands. Other crops, such as sunflower and tobacco are cultivated in small portion of plain lands. Agricultural fields are usually alternated with wooded lands with oaks, ash, maple, etc. managed as coppice to produce fuelwood destined to local energy market.

Veronica and Stefano are 40 years old and were born in Rome. They moved to Umbria Region about 10 years ago, wishing to find a better quality of live in a rural area in comparison to the big city, in particular for their children. The overall objective of the farmers is to produce enough food and energy to self-sustain the family in an environmental friendly way. Since Veronica and Stefano started agricultural activity without any specific background and experience, they began to get basic technical skills and knowledge by consulting their neighbour farmers.

The farm size is about 7 ha, including the house where the family lives. About 0.7 ha are managed as fruit orchards (Figure 3) in which several traditional varieties of fruit species, such as mulberry, apricot, apple, almond, quince tree, etc., are currently cultivated intercropped with asparagus and artichokes.

Fruits are usually processed to produce homemade jams. Farm includes also 0.2 ha of arable field where cereals are produced mainly to feed poultry, and legumes are grown for home consumption. In addition, in a small portion of the farm land, the feasibility of producing new products such as raspberries and other secondary products is being tested and experimented with the aim to integrate farm income.



Figure 3: In the fruit orchard, traditional varieties are combined with different crops around woodlands

About 4 ha of the farm land are managed with olive orchards. Olive trees comprise local and traditional varieties and are managed according to two planting schemes: in the first one about 600 trees, approximately 40 years old, are planted at a spacing of 6x6 m (Figure 4); in the second about 300 older olive trees are planted at wider distance, about 12x12 m, allowing the intercropping with arable crops (Figure 5).



Figure 4: Olive orchard in which olive trees are planted at 6x6 m spacing

Farm comprises also small wooded areas managed to collect wood that is used to satisfy the energy need of the farm. In addition, a water source and a small artificial water basin are included in the farm. The water is used to irrigate the homegarden where various seasonal vegetables are cultivated in rotation, allowing the production of different vegetables during the whole year.



Figure 5: Olive orchard in which olive trees are planted at 12x12 m spacing

In terms of economic revenue, the extra-virgin olive oil is the most important product of the farm. Olive orchards usually produce about 9 tons of olives per year. Olives are usually collected at the beginning of November and processed in a local olive mill. The annual extra-virgin olive oil production is about 1,200 litres. The olive oil is mainly destined to domestic market; a limited percentage is sold abroad. Pruning olive trees and harvesting olives are the most costly management practices, in terms of labour. Soil fertility is integrated using only manure, without any chemical fertilizers or treatments, and all the farm products are organic. Moreover, phytosanitary control of pathogens, in particular olive fly, is carried out through biological methods. Olive orchards are kept with natural grass between the tree rows and weed is periodically mown. In terms of expenses, the olive process at the oil mill accounts about 43% of the total cost. In addition, about 26% of the expenses are related to the administrative management costs. Since they are a young family with 3 children, Veronica and Stefano claim the lack of appropriate economic support (i.e. subsidies) from the public institutions to their farm. The Single Farmer Payment, within the current CAP, is limited and it allows to cover just taxes and farmer association costs.

Veronica and Stefano attempt to get new ideas and to improve their skills by means of technical journals and through the exchange of knowledge with other farmers living around. Currently, they are starting to breed poultry free-range grazing, with the main aim to increase the household income respecting the animal welfare.

Source: Andrea Pisanelli (EURAF National Delegate), November 2015.

4. AGROFORESTRY SYSTEMS FOR AMMONIA AIR QUALITY MANAGEMENT



Figure 6: *Silvopastoral systems with chickens*

Trees are effective scavengers of both gaseous and particulate pollutants from the atmosphere, making tree-belts potentially effective landscape features to support the abatement of ammonia from intensive agriculture. Impacts on ecosystems from atmospheric nitrogen (N) pollution are still seen as a major threat for European biodiversity. Across Europe over 70% of the Natura 2000 area in Europe (EU28) exceeds critical loads for nutrient nitrogen deposition.

Recent research using field measurements, wind tunnel studies, and modelling has shown that the recapture of ammonia by trees can range from around 20% (trees planted around housing systems), up to 45% recapture for under-storey livestock silvopastoral systems. Modelling results also suggest that tree planting in hot spot areas of ammonia emissions would lead to reduced N deposition on nearby sensitive habitats. Moreover, increased capture by the planted trees also generated an added benefit of reducing long-range transport effects.

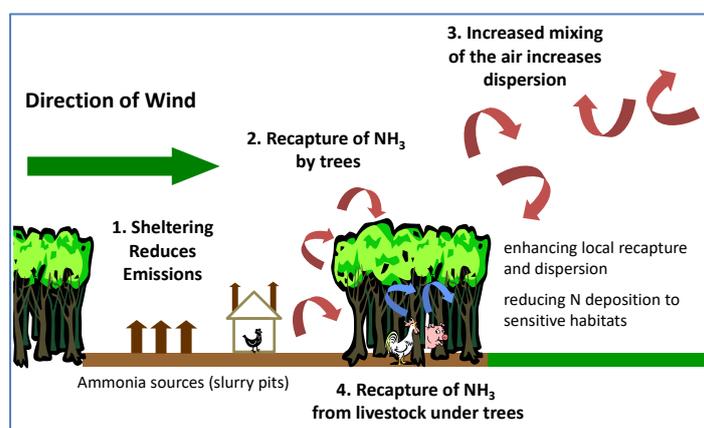


Figure 7: *Recapture of ammonia by trees*

The cost-effectiveness of planting trees for ammonia recapture were also calculated showing that planting trees is very cost effective when costs to society were taken into account. Comparing the cost per kg of NH₃ captured showed that planting trees is a method of ammonia emission mitigation comparable with other (technical) measures. The costs for planting trees downwind of housing were calculated at €0.2-0.8/kg NH₃ abated, while the cost of the silvopastoral system were €2.6-7.3/kg NH₃.

Agroforestry for ammonia abatement offers multiple benefits for the farmer and synergistic effects for society as a whole including i) carbon sequestration, ii) visibility screening around housing units, iii) improved animal welfare for silvopastoral systems, iv) reducing critical load exceedance on protected sites v) price advantage of ‘woodland chicken’ products, vi) supporting Industrial Emissions Directive (IED) requirements for emission reduction, vii) supporting national afforestation policies.

More details in [Bealey et al \(2014\)](#)

Source: Bill Bealey (CEH Edinburgh, Scotland, bib@ceh.ac.uk), November 2015.

5. ECOSFIX PROJECT

[Ecosfix](#) was an innovative research project funded by the Agence Nationale de la Recherche Française (2010–2014). The objective was to study the services provided by plant roots ecosystems. How do plants contribute to climate change mitigation through carbon capture and storage (CSS)? Are there some hydraulic lift phenomena passively triggered by trees which could benefit the trees’ direct environment? How do roots contribute to slow down, or even stop topsoil erosion or deeper soil erosion? A list of questions where it's difficult to find some concrete results, but research is progressing.

For 4 years, multidisciplinary research teams from France, Laos and Costa-Rica, endeavoured to set up some innovative protocols, sometimes ambitious, in order to identify and better comprehend the processes at play. The AGROOF SCOP participative and cooperative company was tasked with reporting on the project’s results. For 3 years, it worked together with researchers, assessing their protocols, and witnessed the difficulties and successes the project encountered, more than only results. Having lent audio visual tools to researchers, or recording by themselves, the AGROOF SCOP gathered about 800 sequences of footage. The montage was realized based on themes. These sequences were then organized in a web-document where the spectators can see interviews, pedagogical materials (laboratory and/or on-field tools and machines, scientific protocols) as well as a variety of media related to the agroecological thematic of the project.

Some media were edited under creative commons licence, allowing to freely broadcast the media for people to use, not resorting to any marketable products or spin-off products. An important literature resource, presentations, and scientific journal articles provided by the researchers are freely downloadable from the website whenever that was legally possible.

This web-document is a prototype, hence carrying achievements, as well as weaknesses. You can send any comment/ideas to the auteurs (girardin@agrooof.net). The idea was to offer another vision of a research

project, different from the only final reports or publications, to give a view of the behind-the-scenes of Ecosfix.

Source: *Fabien Liagre (AGROOF SCOP), November 2015.*

6. MISCELLANEOUS

Agroforestry in Action Webinar Series

The Agroforestry in Action Webinar Series is a production of the [Center for Agroforestry at the University of Missouri](#). Presentations in this webinar series explore topics in agroforestry from North America and around the globe, showcasing examples of excellence in practice and research. Live webinars are presented on a monthly basis and are free and open to all. Please see the [live webinar schedule](#) and register in advance to participate.

A new module on Agroforestry has just been added to the [FAO Sustainable Forest Management Toolbox](#)

In addition to an overview of Agroforestry, the module contain tools, case studies and further reading that FAO hopes will be useful to the different stakeholders dealing with agroforestry issues. The module is intended to be a living document and FAO would greatly appreciate any comments you might have on the text but more important are new case studies, tools and new publications that you would like to contribute with. More info [here](#).

3rd European Agroforestry Conference

The 3rd European Agroforestry Conference will take place at Montpellier, France, during 23th – 25th May 2016. The theme of the Conference will be “Celebrating 20 years of Agroforestry research in Europe”. More info [here](#).

12th European IFSA (International Farming Systems Association) Symposium

The 12th European IFSA Symposium will take place at Harper Adams University, Shropshire, UK, during 12th – 15th July 2016. The theme of the Symposium will be "Social and technological transformation of farming systems: Diverging and converging pathways". More info [here](#).

EcoSummit 2016, Ecological Sustainability: Engineering Change

The 5th International EcoSummit Congress will take place at The Corum Convention Center, Montpellier, France, during 29th August – 1st September 2016. More info [here](#).

World Congress Silvo-Pastoral Systems 2016

The World Congress Silvo-Pastoral Systems 2016 will take place in Évora, Portugal during 27th – 30th September 2016. The theme of the Congress will be “Silvo-Pastoral Systems in a changing world: functions, management and people”. More info [here](#).

Important: abstract submission has been extended until 15th January 2016!

This is your newsletter! If there's anything you think should be included, please send suggestions to euraf@agroforestry.eu for the next issue.

This newsletter is carried out in collaboration with the European [AGFORWARD](#) Project.

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