



This event is financially supported by PSR Basilicata 2007-2013, Misura 124 Pif **IQUASOPO** and **OTIROL** Projects

The International **summer school** will be held in **Matera** (Italy) and it is open to 30 participants (students of all disciplines, researchers, technicians) without any fee. For registration send an e-mail to the contacts below within 5th May, 2015.

The course language will be English and translation will be provided under request.

Matera is a **Unesco World Heritage site** and it is the most outstanding, intact example of a troglodyte settlement in the Mediterranean region, perfectly adapted to its terrain and ecosystem. Moreover, Matera has been selected as the **European Capital of Culture in 2019**.



Organization offices

SOI, Dr. Francesco Baroncini,
segreteria@soishs.org

Contacts and registration

Dr. Rosa Nicoletti, rossenico@gmail.com
tel. +39 0835 197 7041
Dr. Alba Mininni, alba.mininni@unibas.it
tel. +39 0835 197 1495

f e a s r Basilicata 2007 | 2013



Università degli Studi
della Basilicata



ARCHITETTURA, AMBIENTE
PATRIMONI CULTURALI
Dipartimento delle Culture
Europee e del Mediterraneo



SUSTAINABLE ORCHARD MANAGEMENT *soil fertility and water use efficiency*

18 - 22 May, 2015
Matera




Fondo europeo agricolo per lo sviluppo rurale:
l'Europa investe nelle zone rurali



Introduction

This summer school highlights the beneficial effects of sustainable orchard management practices to preserve the environment, as approaches to climate change mitigation.

Analysis of water and carbon resources use at farm scale could contribute to design practices with no (or minimum) impact on environment.

Carbon footprint (CF) and water footprint (WF) are being used to indicate the impacts of the carbon and water use by production systems. In particular, soil organic carbon remediation, through compost addition, pruning material retention and cover crops, improves chemical and microbiological fertility of soil and increases the soil water holding capacity, reducing the water footprint.

Through changes in orchard management, agriculture has a potential role in mitigating climate change by reducing the emissions of greenhouse gases released by farming activities and by sequestering carbon in farmland soils.

The 5-day course consists of lectures on specific topics, laboratory sessions on modelling of carbon and water cycle in agro-ecosystems and LCA software (SimaPro) and field excursion in experimental sites in Basilicata region.

Mon 18.05

08.30 Welcome, introduction of teachers and participants, course objectives and schedule (F. Mirizzi - Head of Department, DiCEM and C. Xiloyannis - Basilicata University)

Plant water relations session

9.00 – 9.50 Physiology of water relations of fruit crops - a comparison of apple and grape (A. Lakso - Cornell University)

9.50 – 10.40 MaluSim an apple tree carbon balance model and its practical applications (A. Lakso - Cornell University)

10.40 – 11.00 coffee break

11.00 – 12.40 Roots water uptake and sustainable water management at farm level (B. Dichio - Basilicata University)

12.40 – 13.30 Root interaction with organic residues (D. Neri - Consiglio per la Ricerca in Agricoltura)

15.00 – 16.00 A new microtensiometer chip sensor for monitoring water potentials in soils and inside plants (A. Lakso - Cornell University)

Tue 19.05

Soil fertility session

9.00 – 11.00 Compost and compost Tea suppressivity against phytopathological fungi (M. Zaccardelli - Consiglio per la Ricerca in Agricoltura)

11.00 – 11.30 coffee break

11.30 – 12.30 Sustainable agriculture in South Italy to restore fertility and carbon in the soil and improve water use efficiency (C. Xiloyannis - Basilicata University)

12.30 – 13.30 Discussion

Wed 20.05

Analysis and tools of Carbon and Water footprint session

9.00 – 10.00 Water footprint in LCA: tools and methods for accounting and impact assessment (A. Manzardo - Padua University)

10.00 – 11.00 Advanced techniques for monitoring water and carbon budgets of agricultural crops (A. Pitacco and N. Vendrame - Padua University)

11.00 – 11.30 coffee break

11.30 – 13.30 New platform of simulation for carbon accounting in agricultural soil (E. Lugato - European Joint Research Center and Agreement Spin off)

Thu 21.05

Experimental Sites Excursion

Instrumentation and methodologies for carbon soil fluxes and moisture profile (G. Montanaro and E. Lardo - Basilicata University) and eddy covariance equipment (N. Vendrame - Padua University)

Fri 22.05

Round table “Water, Sustainability and Environment”

10.00 – 13.00 European environmental policies and funding opportunities - EIP Networking

Guided tour through Sassi, the old part of Matera and to the underground water collection system