



LIFE 14 CCA/GR/00389 - AgroClimaWater

Conferenza all'Orto Botanico di Roma Affrontare la desertificazione nel Mediterraneo col Cocoon 23 Ottobre, 2018

LIFE AgroClimaWater: esperienze di campo e di governance territoriale



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



Gruppo di ricerca di Frutticoltura
Prof. Cristos Xiloyannis
Prof. Bartolomeo Dichio





Tube sospeso ala singola



Tube singolo a terra gocciolatoi auto-compensanti ogni 50 cm





Soils impoverishment

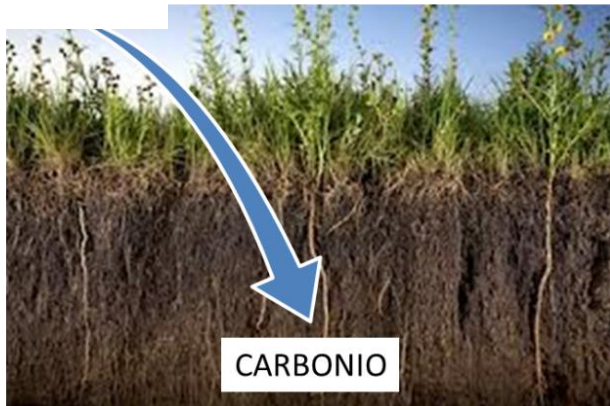
Basilicata Region, Italy

Soil Organic Carbon 0,8 - 1,3%



Innovative Agriculture has a potential role to mitigate Climate Change

CO₂



By SEQUESTERING CO₂

...in trees biomass (leaves, trunk, roots, fruit)
...in cover crops

peach 35 tons of CO₂ fixed at hectare per year
olive 28 tons of CO₂ fixed at hectare per year

**The 1% increase of carbon in the soil
corresponds to 260 t / ha of CO₂ stably stored**

(50 cm depth, 1.4 t/m³ bulk density)

Sustainable Management practices

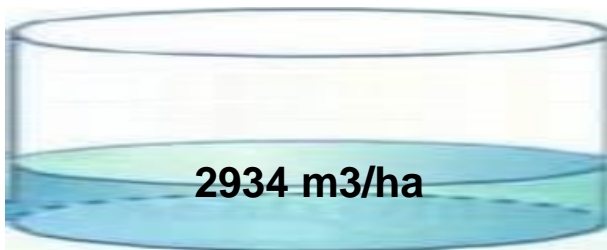


No soil tillage, cover crops, shredding of pruning materials



Fertigation, compost addition

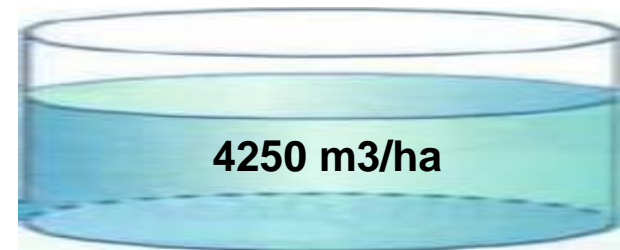
Increase of soil water holding capacity



Mechanical tillage reduces water infiltration causing runoff and erosion processes

Soil losses

60-105 t ha⁻¹ y⁻¹



Sustainable management practices increase infiltration rate and water storage in soil

Soil losses

< 1 t ha⁻¹ y⁻¹



LIFE AGROCLIMAWATER PROJECT



SPYRIDIS A. - KOUTALOU V.
HYETOS G.P.
(Coordinator)
www.yetos.gr



Hellenic Agricultural Organization
"Demeter"
Directorate General of Agricultural Research
• Institute for Olive Tree, Subtropical Plants
and Viticulture,
www.nagref-cha.gr
• Soil and Water Resources Institute
www.lri.gr



RodaxAgro Ltd
Environment & Quality
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Università degli Studi della Basilicata
Dipartimento delle Culture Europee
e del Mediterraneo
<http://dicem.unibas.it/site/home.html>



Agricultural
Cooperative Partnership
Mirabello Union S.A.
www.easm.gr



Platanias Municipality
Development Enterprise
www.platanias.gr



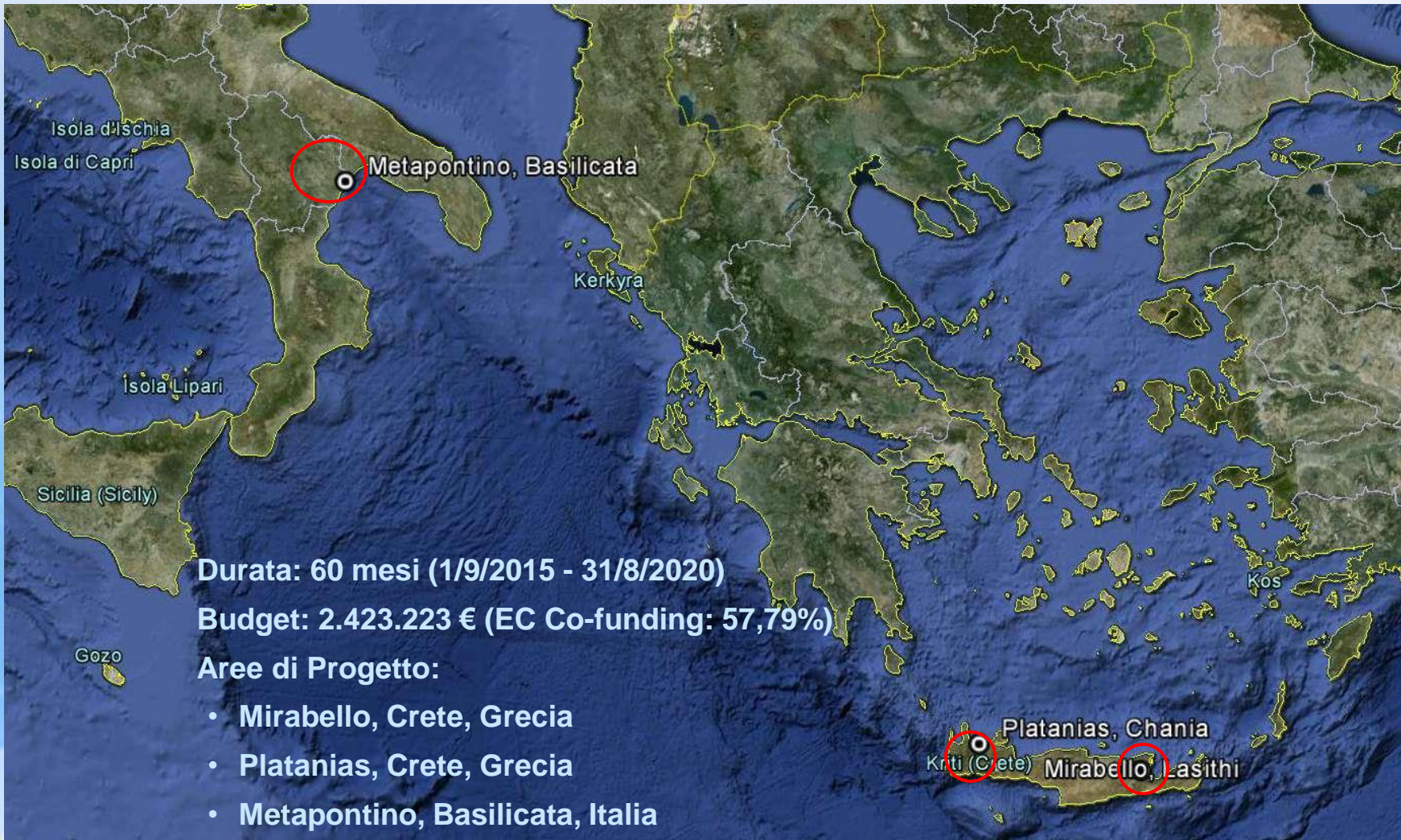
ASSOFRUIT
ITALIA
Assofruit Italia
Società Cooperativa
Agricola
www.assofruit.com



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INFORMAZIONI GENERALI



Durata: 60 mesi (1/9/2015 - 31/8/2020)

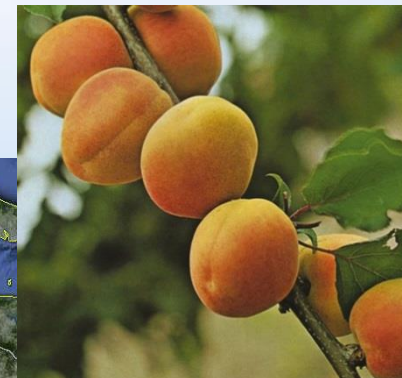
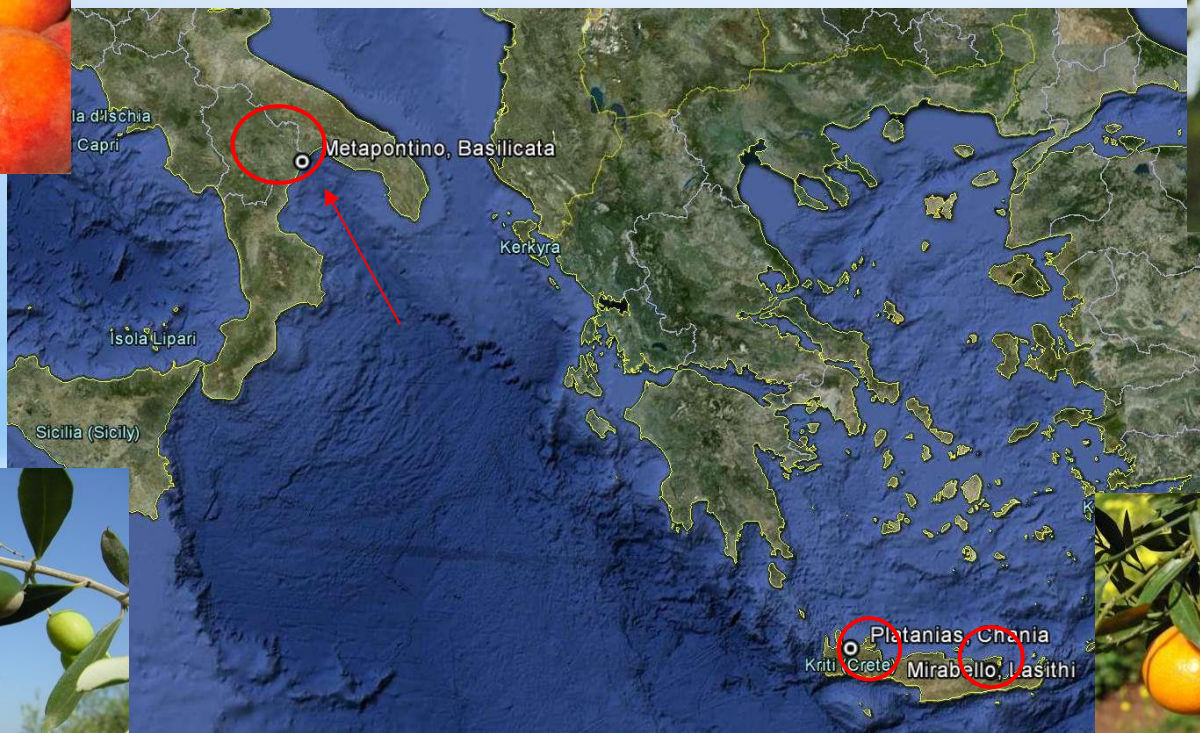
Budget: 2.423.223 € (EC Co-funding: 57,79%)

Aree di Progetto:

- Mirabello, Crete, Grecia
- Platanias, Crete, Grecia
- Metapontino, Basilicata, Italia



COLTURE E SITI PILOTA



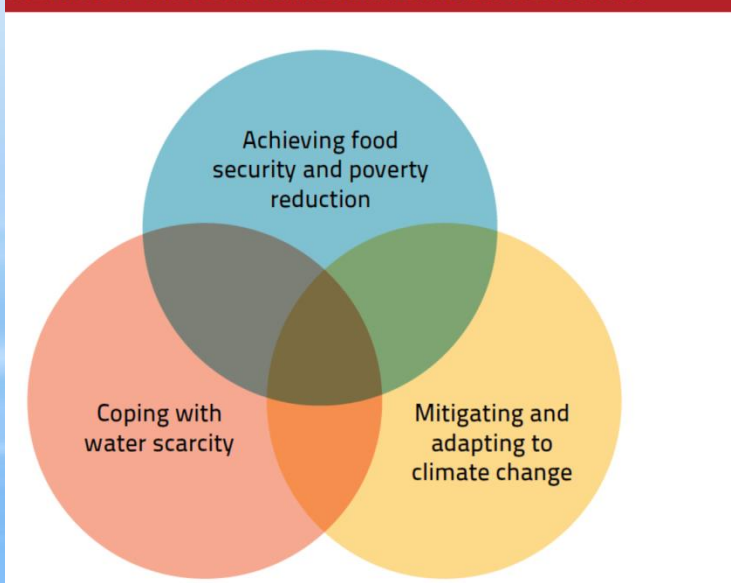
30 SITI PILOTA



OBIETTIVO PRINCIPALE

Preparare il settore agricolo all'adattamento ai cambiamenti climatici attraverso l'introduzione di strategie di gestione della risorsa idrica in agricoltura (WMAS) all'interno delle Organizzazioni di Produttori (O.P.)

THE FOCUS OF THE GLOBAL FRAMEWORK FOR ACTION IN A NUTSHELL



For more information
Water-Scarcity@fao.org

Source FAO, 2016



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LIFE AGROCLIMAWATER STRUTTURA



WMAS



ASSOFRUIT
ITALIA

Scala Pilota

Proiezione



**Organizzazione dei Produttori
O.P.**

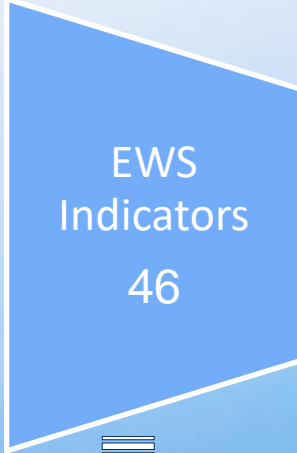
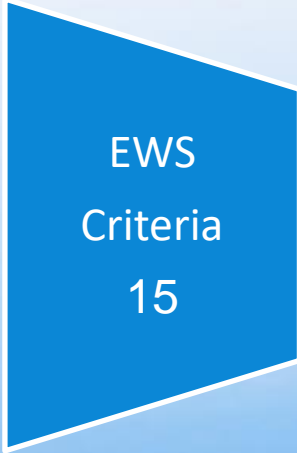
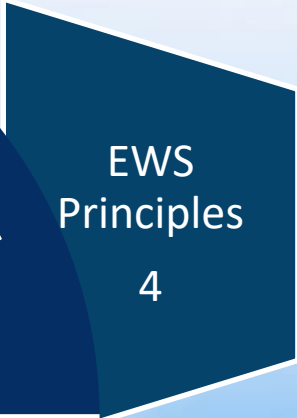
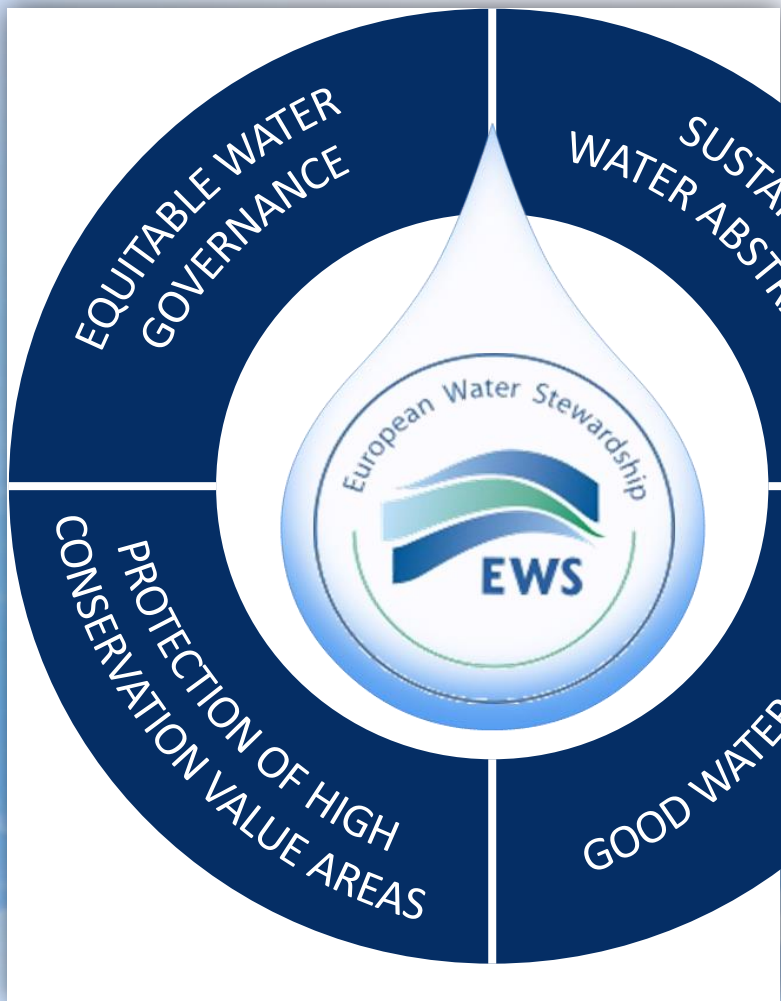


**Produttori
Associati**

A livello di Bacino



STRUCTURE OF EWS





OBIETTIVI DEL PROGETTO LIFE AGROCLIMAWATER

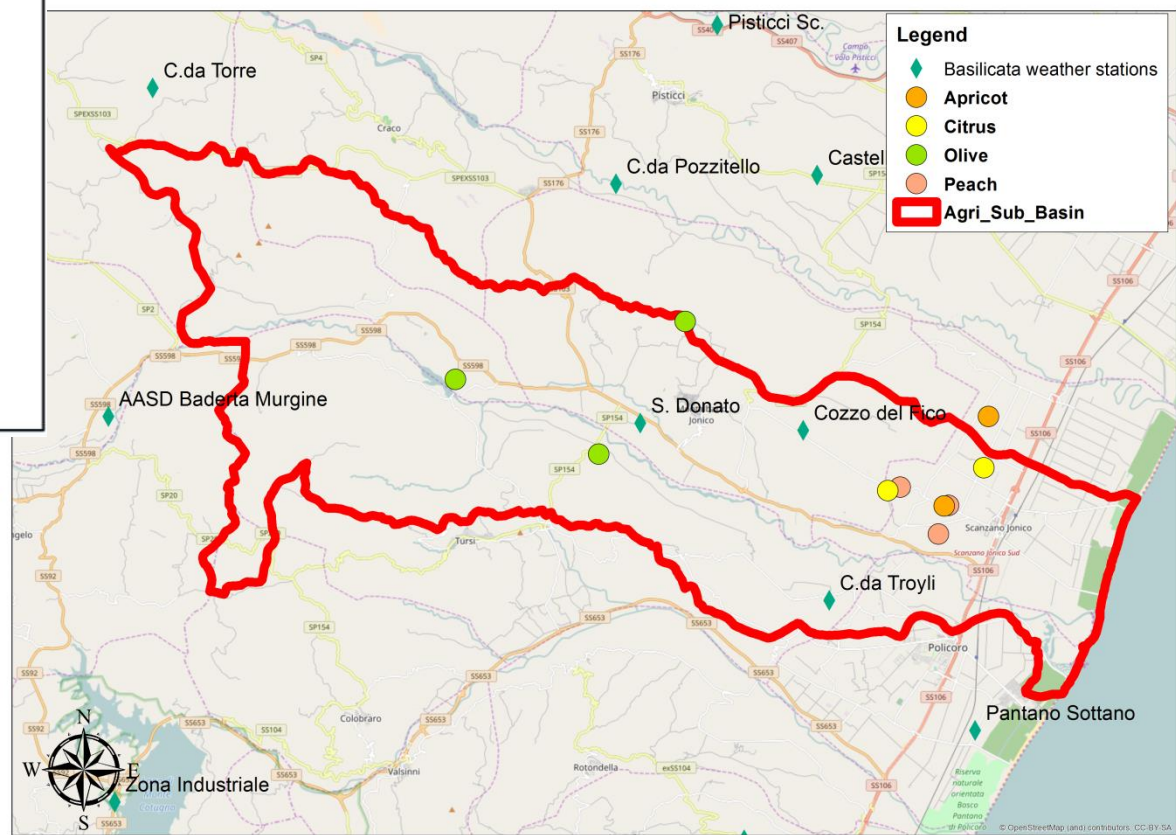
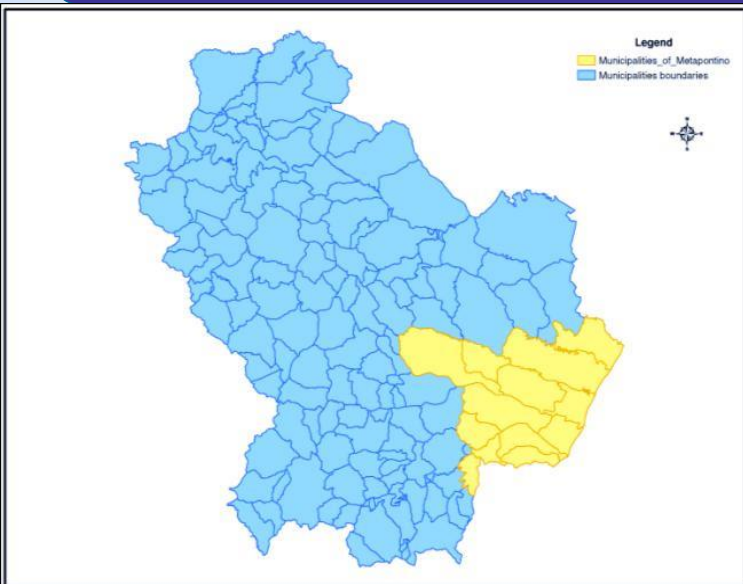
- Incrementare efficienza d'uso dell'acqua e capacità di adattamento in agricoltura
- Migliorare qualità e quantità delle produzioni, stabilizzazione ed adeguatezza del reddito rurale
- Implementazione governance O.P. in materia di gestione della risorsa idrica
- Rafforzare la cooperazione tra produttori, organizzazioni agricole, ricercatori, pubblica amministrazione e società



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10 Siti pilota Area Metapontino - sub bacino Agri - Basilicata



Good Agricultural Practices (GAPs) in PILOT SITES

DEMO

Innovative
~ 1 ha

Traditional
~ 1 ha

Control

List of Good Agricultural Practices

- No soil tillage
- Spontaneous cover crops
- Shredding of pruning residues
- Fertilizing based upon leaf and soil analysis
- Application of organic material (compost)
- Winter pruning and Summer pruning and shredding of
- Irrigation schedule based on the daily water balance and soil moisture monitoring
- Application of post-harvest deficit irrigation



Applicazione di protocolli ottimizzati di gestione dell'irrigazione (bilancio idrico) e della nutrizione (bilancio nutrizionale)

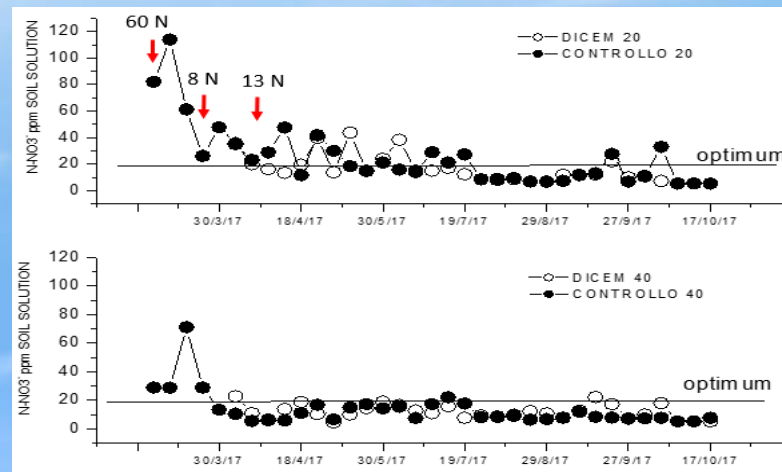
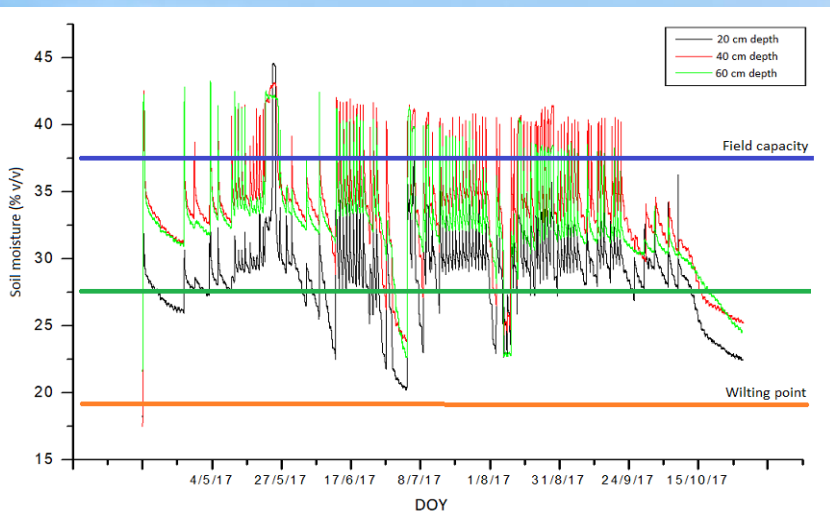


Monitoraggio fenomeni in campo per guidare decisioni agronomiche più rispettose dell'ambiente e definire protocolli ad hoc per ogni situazione



❖ Monitoraggio del contenuto idrico del suolo

❖ Monitoraggio del contenuto nitrati nel suolo





Water Balance Implementation

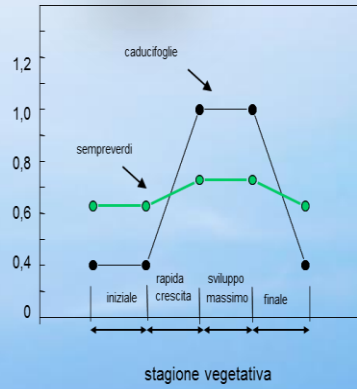
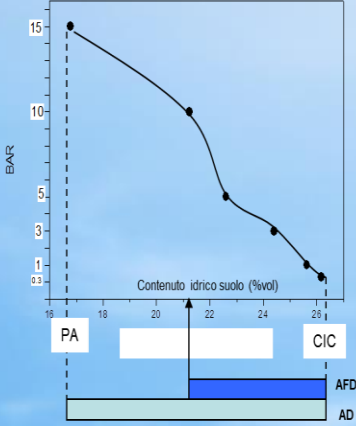


Meteorological data
(ET_0)

SOIL

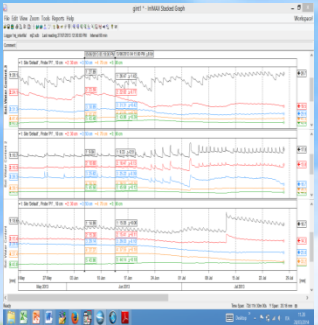
WATER BALANCE

CROP



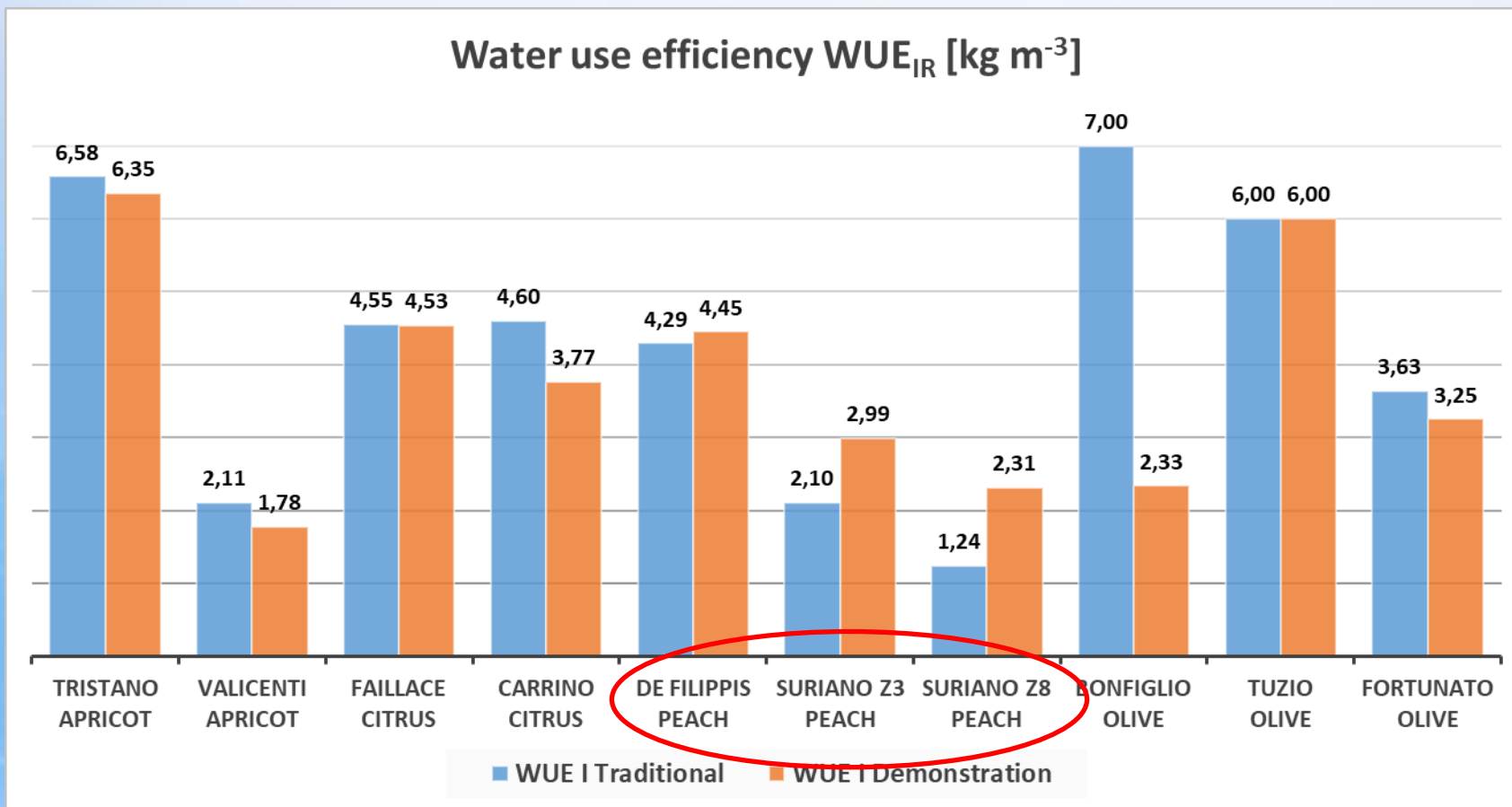
SOIL MOISTURE

OPTIMIZED WATER BALANCE





1st IMPLEMENTATION YEAR – 2017 WATER USE EFFICIENCY (WUE)



1 IMPLEMENTATION YEAR – 2017 WATER USE EFFICIENCY (WUE)

Farmer	Crops	water saving [m3]	% of water saving
DE FILIPPIS	Peach	231,67	3,6%
SURIANO Z3	Peach	1830,00	29,6%
SURIANO Z8	Peach	3740,29	46,4%



NETWORKING ACTIVITIES

Utilizzo del Cocoon all'interno del LIFE AGROCLIMAWATER

In aridocoltura nelle zone interne collinari

Sistemi olivicoli non intensivi...





ISHS- IX International Symposium on Irrigation of Horticultural Crops 17-20 June 2019 in MATERA, ITALY



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D. Laterza

C. Loiudice

K. Mitou



<http://www.irrigationmatera2019.com>



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for Horticultural Science

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web site under construction...



IX INTERNATIONAL SYMPOSIUM
ON IRRIGATION OF HORTICULTURAL CROPS
17 - 20 JUNE 2019 | MATERA - ITALY

464
days to start

Conveners
Prof. Bartolomeo Dichio - Prof. Cristos Xiloyannis
D'CEM/ University of Basilicata



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