



Project No. 503400

IRRIQUAL

Sustainable orchard irrigation for improving fruit quality and safety

Specific Targeted Research or Innovation Project

Food Quality and Safety

Minutes of the final annual meeting, 2nd – 3rd December 2009, Murcia (Spain)

Start date: 2nd December 2009 _____

Duration: 2 days

Consejo Superior de Investigaciones Científicas

Project co-funded by the European Commission within the Sixth Framework Programme (2002-2006)

Dissemination Level

PU	Public	
PP	Restricted to other programme participants (including the Commission Services)	
RE	Restricted to a group specified by the consortium (including the Commission Services)	
CO	Confidential, only for members of the consortium (including the Commission Services)	X

LIST OF ATTENDANTS

NAME	ORGANIZATION
1. Juan José Alarcón	CEBAS-CSIC
2. Pedro Segura	CEBAS-CSIC
3. Ana Allende	CEBAS-CSIC
4. María Isabel Gil	CEBAS-CSIC
5. Oussama Mouzer	CEBAS-CSIC
6. Macarena Moreno	CEBAS-CSIC
7. José María Bayona Gambín	CEBAS-CSIC
8. Emilio Nicolás Nicolás	CEBAS-CSIC
9. Javier Calatrava Leyva	UPCT
10. Alejandro Pérez Pastor	UPCT
11. Alain Baille	UPCT
12. Pedro A. Nortes	UPCT
13. Rafael Domingo Miguel	UPCT
14. Teodoro López Caro	CONTARIEGO
15. María Victoria Villanueva Vilar	CONTARIEGO
16. Mohamad Younes	Litani River Authority
17. Nahed Debian	Litani River Authority
18. Mazen Soueidan	Litani River Authority
19. Antonio Díaz Espejo	IRNAS-CSIC
20. Nuria Prior Arce	EUROVÉRTICE CONSULTORES
21. Laila Khouimi	SAPIAMA
22. Brahim Lebied	SAPIAMA
23. Hicham Elfennan	SAPIAMA
24. Youssef Ghnizar	SAPIAMA
25. Gilles Vercambre	INRA
26. Helene Gautier	INRA
27. Carole Becele	INRA
28. Laurent Gómez	INRA
29. José Manuel Mirás Avalos	INRA
30. Claude Doussan	INRA
31. Françoise Lescourret	INRA
32. Michel Genard	INRA
33. Elena Pliakoni	UTH
34. George Nanos	UTH
35. Rosaria Cornacchia	UNIFG
36. Raffaella Rinaldi	UNIFG
37. Lazzazera Micaele	UNIFG
38. Maria Luisa Amodio	UNIFG
39. George Nanos	UTH
40. Eleni Pliakoni	UTH
41. Abdellatif El Fado	IAV
42. Mohamed El Otmani	IAV
43. Rob Schouten	WU

AGENDA

FINAL MEETING IRRIQUAL PROJECT

MURCIA 2ND and 3RD December 2009

Wednesday 2nd December 2009

9:30-10:00 Inauguration and presentation of the meeting
Juan José Alarcón (CSIC-CEBAS)

10:00 – 11:30 Discussions Working Group

- GLOBAL and Models: WP 1, 2, 5, 6.1, 7, 8, 9 and 10
Coordinator: Juan José Alarcón (CSIC-CEBAS)
- QUALITY: WP 3, 4 and 6.2
Coordinator: M^a Isabel Gil (CSIC-CEBAS)
- SOCIOECONOMIC ASPECTS: WP 11 and 12
Coordinator: George Nanos (UTH)

11:30 - 12:00 Coffee Break

12:00 – 14:00 Discussions Working Group

- GLOBAL and Models: WP 1, 2, 5, 6.1, 7, 8, 9 and 10
Coordinator: Juan José Alarcón (CSIC-CEBAS)
- QUALITY: WP 3, 4 and 6.2
Coordinator: M^a Isabel Gil (CSIC-CEBAS)
- SOCIOECONOMIC ASPECTS: WP 11 and 12
Coordinator: George Nanos (UTH)

14:00 -16:00 Free time for lunch

16:00- 18:00 Continue Discussions

- GLOBAL and Models: WP 1, 2, 5, 6.1, 7, 8, 9 and 10
Coordinator: Juan José Alarcón (CSIC-CEBAS)
- QUALITY: WP 3, 4 and 6.2
Coordinator: M^a Isabel Gil (CSIC-CEBAS)
- SOCIOECONOMIC ASPECTS: WP 11 and 12
Coordinator: George Nanos (UTH)

18:00 Free time for dinner

Thursday 3rd December 2009

9:30 – 10:15 Presentation results Working Group GLOBAL (WP 1, 2, 8, 9 and 10)

Juan José Alarcón (CSIC-CEBAS)

10:15 – 11:00 Presentation results Working Group MODELS (WP 5, 6.1 and 7)

Gilles Vercaambre (INRA)

11:00 – 11:45 Coffee Break

11:45 – 12:30 Presentation results Working Group QUALITY (WP 3, 4 and 6.2)

M^a Isabel Gil (CSIC-CEBAS) and Giancarlo Colelli (UNIFG)

12:30 – 13:15 Presentation results Working Group SOCIOECONOMIC ASPECTS (WP 11 and 12)

George Nanos (UTH) and Javier Calatrava (UPCT)

13:15 – 13:30 CONCLUSION

Juan José Alarcón (CSIC-CEBAS)

14:00- 16:00: Free time for lunch

16:00 – 20:00 Visit Murcia city

21:00 – Official dinner

CONCLUSIONS OF THE MEETING

The final experimental and technological results of IRRIQUAL were exposed in this Final Meeting.

- 1) The strategies of regulated deficit irrigation (RDI) have improved efficiency in water use in all crops tested (peach, citrus, almonds, olives). The implementation of these strategies accounted for water savings around 15 and 30%.
- 2) The fruit ripening was significantly delayed by the application of RDI. The severe water stress, sometimes associated with these irrigation practices, resulted in reduced production but significantly increased the quality of the harvest (mainly there was an increase in phenolic compounds and sugars).
- 3) The safety (microbiological and nitrate content) of crops were unaffected by the application of treated wastewater. However, production and fruit quality was affected, in some cases, by the high concentration of salts in recycled water.
- 4) The use of biosensors in plants (trunk thickness and records of sap flow) and continuous measurement of the soil moisture (capacitive probes), were selected as the most appropriate indicators to know crop water needs and develop precision irrigation techniques.
- 5) Some models have been developed in soil and plant biotechnology to simulate the effects of different scenarios in water management on the production and quality of crops.
- 6) A equipment for disinfection of water reservoirs based on the ultrasound use has been developed. This equipment prevents the eutrophication in the water reservoirs and the effects of algae on the filters and emitters.
- 7) A prototype automata for precision irrigation based on the use of wireless sensors has been developed. The prototype has been adapted to new systems of information transmission and use of new irrigation scheduling algorithms.
- 8) Guidelines of "Best Practices for Irrigation Water and Fertilizer" tailored to the specific conditions of the Mediterranean Area have been developed. These guidelines have been translated and disseminated to different languages and countries.