

PROGRAM

Monday, July 16th

08:30

– 09:20

WELCOME

Peter Braun (Convenor; Geisenheim Research Center)

Ingmar Jung (Vice-minister: Ministry of Higher Education, Research and the Arts)

Hans R. Schultz (Director of Geisenheim Research Center)

09:20 *Section 6: Water/Carbon Footprint and Socio Economic Consequences*

– 10:00 **Chairman:** Peter Braun

Minimising the Carbon and Water Footprints of Food Products for Multiple Benefits

Invited Speaker: Brent Clothier

10:00

– 10:30

COFFEE BREAK

10:30– *Section 6: Water/Carbon Footprint and Socio Economic Consequences*

12:00 **Chairman:** Alan Lakso

Water Requirements and Footprint of a Super-intensive Olive Grove under Mediterranean Climate

T. A. Paço, **António Nogueira**, J. C. Silvestre, L. F. Gonzalez, F. L. Santos and L.S. Pereira

Section 1: Evapotranspiration and Canopy Processes

Seasonal Changes in Pear Transpiration

Ian Goodwin, S. Green and D. Cornwall

A New Microdendrometric Index to Quantify Plant Water Status in Woody Crops

– Evaluation in Two Case-Studies in Kiwifruit

R. M. Silva and **Isabel Ferreira**

Are Sap Flow and Canopy Temperature Measurements Useful Alternatives to Stem Water Potential for Detecting Plant Water Stress in Citrus Trees?

Carlos Ballester, J. Castel, M. A. Jiménez-Bello, D. S. Intrigliolo and J. R. Castel

12:00

– 13:00

LUNCH

13:00

– 14:30

Room 30:

Section 1: Evapotranspiration and Canopy Processes

Chairman: Adriano Battilani

A Promising Tool for Early and Quick Evaluation of Water Stress Tolerance in Apple Genotype

Pasquale Losciale, L. Manfrini, B. Morandi, E. Pierpaoli, M. Zibordi and L. Corelli Grappadelli

Comparing Water use of Apples and Grapes - Physiological and Morphological Aspects

Alan N. Lakso

Room 3:

Section 5: Remote Sensing

Chairman: Enrique Fernandez

Assessment of Grapevine Water Status from Hyperspectral Imaging of Leaves

Maria P. Diago, A. M. Fernandes, P. Melo-Pinto, A. Pou1, B. Millan, J. Tardaguila and M. Oliveira

High Resolution Satellite Imagery to Detect Moisture and Nitrogen Stress in Potato

Adel Elmetwalli, T. Z. Fouda and E. Y. Ali

Effect of Different Water Supply on Transpiration and Water Use Efficiency of Leek and Sweet Pepper

Aleš Jezdinský and R. Pokluda

Rootstock Effects on Water Relations of Peach Tree under Contrasting Watering Conditions

Mohamed Ghrab, M. M. Masmoudi and N. Ben Mechlia

Section 3: Water Quality / Water Re-Use and Salinity

Quantifying the Contribution of Preferential Accumulation on Reducing Na⁺ Concentration in Cucumber Leaves
Katrin Kahlen, T.-W. Chen and H. Stützel

Treated Wastewater Reuse on Potato (*Solanum tuberosum*)

Adriano Battilani, F. Plauborg, M. N. Andersen, A. Forslund, J. Ensink, A. Daalsgard, T. Fletcher and D. Solimando

14:30
– 15:00

C O F F E E B R E A K

Guided Tour:

Monastery Eberbach + Wine Experience at the Steinbergkeller (Hessian State Winery)

Tuesday, July 17th

08:30 *Section 2: Irrigation Scheduling*

– 10:00 Chairman: Ian Goodwin

Crop Load and Irrigation Interactions – a New Dimension of RDI

Invited Speaker: Amos Naor

The Role of Rootstocks in Grapevine Water Use Efficiency: Impacts on Transpiration, Stomatal Control and Yield Efficiency

Everard J. Edwards, M. J. Collins, P. R. Clingeleffer and R.R. Walker

Using Irrigation Strategy to Manipulate the Hormonal Profile of Chardonnay Grapevines and Improve the Grape Quality under Cool Climate Conditions

Gabriel Balint and A. G. Reynolds

10:00
– 10:30

C O F F E E B R E A K

10:30 *Section 2: Irrigation Scheduling*

– 12:00 Chairman: Jordi Marsal

Evaluation of Regulated Deficit Irrigation for Apple Trees cv. Gala Based on Midday Stem Water Potential and Soil Matrix Potential

Philippe Monney

Field Measurements of Plant Water Status in Grapevines Using a Combined Thermal Diffusivity and Vapour Pressure Deficit Sensor

Andrew Skinner

Indices for Scheduling Irrigation in Hedgerow Olive Orchards

José Enrique Fernández, M.V. Cuevas, C. Rodriguez-Dominguez, M. J. Martín-Palomo, A. Perez-Martin, J. M. Torres-Ruiz, S. Elsayed-Farag, U. Zimmermann and A. Diaz-Espejo

Irrigation Strategies to Minimize Drought-Induced Yield Reduction in Forelle Pear Trees

Theresa Volschenk

12:00 – 13:00	LUNCH	
13:00 – 14:30	<p><i>Room 30:</i> <i>Section 1: Evapotranspiration and Canopy Processes</i> <u>Chairman:</u> Sigfredo Fuentes Irrigation Level Affects the Daily Growth Pattern of Young Pear Fruit cv. Abbe Fetel Brunella Morandi, S. Anconelli, P. Losciale, L. Manfrini, M. Zibordi, E. Pierpaoli, F. Galli and L. C. Grappadelli</p> <p>Canopy Environment and Fruit Transpiration: Implications for Some Fruit Quality Traits Giuseppe Montanaro, C. Xiloyannis, B. Dichio and A. Lang</p> <p>Deficit Irrigation in Peach and Nectarine: Sensory Quality and Consumer Acceptance Gerardo Lopez, J. Girona and J. Marsal</p> <p>Effects of Excess Soil Moisture on Fruit Yield, Leaf Physiology and Spectral Reflectance of Drip Irrigated Tomato Crop Marino S., Coccozza C., Tognetti R. and Arturo Alvino</p>	<p><i>Room 3:</i> <i>Section 2: Irrigation Scheduling</i> <u>Chairman:</u> Everard J. Edwards Combining Soil Moisture Capacitance Probes and Wetting Front Detectors to Steer Irrigation Scheduling in a Commercial Cherry Tree Field Located in the Ebro Valley (NE Spain) N. Iglesias, D. Tous, O. Cabot and Francesc Ferrer-Alegre</p> <p>Partial Root Drying and Regulated Deficit Irrigation Efficiency in Olive Trees Soumaya Dbara, K. Lahmar and M. B. mimoun</p> <p>Towards Autonomous Scheduling Of Full And Regulated Deficit Irrigation In Peach Jaume Casadesús, M. Mata, J. Marsal and J. Girona</p> <p>The Influence of Regulated Deficit Irrigation and Partial Rootzone Drying on Some Physiological and Productive Characteristics of Vermentino Massimiliano Giuseppe Mamei, L. De Pau, D. Satta, G. Ventroni, L. Zucca, D. Del Piano and R. Zurru</p>
14:30 - 15:00	COFFEE BREAK	
15:00 - 16:10	<p><i>Section 1: Evapotranspiration and Canopy Processes</i> <u>Chairman:</u> Isabel Ferreira The Effect of Watering on Yield and Quality of Carrots Solvita Zeipiņa, I. Alsiņa and L. Lepse</p> <p>The Effect of Irrigation on the Economic and Nutritional Characteristics of Selected Vegetables K. Petříková, L. Nedorost, T. Kopta, M. Jurica, A. Jezdinský, Robert Pokluda and J. Vojtíšková</p> <p>Effects of Deficit Irrigation on Pomegranate Trees Performance and Fruit Quality Diego S. Intrigliolo, L. Bonet, J. J. Alarcón, E. Nicolas, M. B. Pérez-Gago, L. Palou and J. Bartual</p>	
16:10 - 19:00	<p>Poster Presentation & Get Together (Aula) <i>regional wines & snacks provided</i></p>	

Wednesday, July 18th**STUDY TRIPS**

- I. Fruits 08:30
 II. Vegetable 08:00
 III. Viticulture 08:00

Meeting Point: bus car park, Rüdesheim (see map for details)

Thursday, July 19th

08:30– *Section 5: Remote Sensing*

10:00 Chairman: Manfred Stoll

Remote Sensing of Plant Stresses and Use in Crop Management

Invited Speaker: Hamlyn G. Jones

The Vineyard of the Future: A Fully Instrumented Vineyard for Climate Change Research

Sigfredo Fuentes, R. De Bei and S. D. Tyerman

Remote Sensing of Irrigation Requirements in Winegrapes; Validation of an Energy Balance Model and Potential Application of Vegetation Indexes

Martin Mendez-Costabel, N. Dokoozlian and A. Morgan

10:00
- 10:30

C O F F E E B R E A K

10:30– *Section 5: Remote Sensing*

12:00 Chairman: Hamlyn G. Jones

Some Contributions of Remote Sensing for Orchard Irrigation Scheduling Resulting from The Telerieg Research Program in South -West Of France

Carole Isbérie, B. Agnès, A. Komivi, L. Sylvain, J. Audrey, C. Xavier, R. Jean-Luc, S. Bruno and R. Bruno

Determining Actual Evapotranspiration and Crop Coefficient in Large Scale Using Weather Station and Remote Sensing in The Northwest of the State Of São Paulo, Brazil

Fernando Hernandez, A. H. de C. Teixeira, C. M. U. Neale and S. Taghvaeian

Specification of Irrigation Classes Combining Optical Remote Sensing and Classical Methods in a Central European Wine Growing Region

Robert Lux and B. R. Gruber

Advances In The Use Of Near Infrared Spectroscopy For Plant Water Stress Monitoring

Roberta De Bei, S. Fuentes, M. Wirthensohn, D. Cozzolino and S. D. Tyerman

12:00
- 13:00

L U N C H

13:00 *Section 4: Modelling and Climate Change*

- 14:30 Chairman: Katrin Kahlen

Projections of Hydrological Variables and Uncertainties – Implications for Horticulture?

Invited Speaker: Johannes Cullmann

Agro-Climatic Aptitude for Vine Crop Under Irrigation Conditions in The Northeast Brazil

Antônio Heriberto de C. Teixeira, J. Tonietto, F. B. T. Hernandez, G. E. Pereira and H. L. Lopes

Modelling Evapotranspiration and Water Demand of Vegetables Induced by Climate Change for Irrigation Purposes

Nadine Schmidt and J. Zinkernagel

14:30

- 15:00

C O F F E E B R E A K

15:00 - *Section 4: Modelling and Climate Change*

16:50 Chairman: Brent Clothier

Effects and Mitigation of Climate Change on Evapotranspiration, Chilling and Heat Stress

Richard L. Snyder, R. Moratiel, T. M. Shapland and D. Spano

Section 2: Irrigation Scheduling

Numerical Weather Forecasts for Prediction of Reference Evapotranspiration

Witold R. Rudnicki, M. B. Kursa, S. Walkowiak, K. Klamkowski and W. Treder

Monitoring of Irrigation in a Mediterranean Vineyard: Water Balance Simulation Versus Pressure Chamber Measurement

Rémi Gaudin, V. Coulon, E. Cazes, C. Gary and J. Wery

Steps Towards An Improvement In Mechanistic Based Models Of Water Use By Fruit Trees: A Case Study In Olive

Antonio Díaz Espejo, T.N. Buckley, J.S. Sperry, M.V. Cuevas, A. de Cires, S.

Elsayed-Farag, M. J. Martin-Palomo, J. L. Muriel, A. Perez-Martin, C. M. Rodriguez-Dominguez, A. Rubio-Casal, J. M. Torres-Ruiz and J. E. Fernández

Crop Coefficients for Pear ‘Conference’: Comparison between Measurement by a Weighing Lysimeter and Prediction by CropSyst

Jordi Marsal, J. Casadesus, G. Lopez and J. Girona

Meeting Working Groups

I. Working Group on Water Relations (room 30)

II. Working Group on Water Supply and Irrigation (room 3)

III. Working Group on Saline Water Management and Water Re-use in Horticulture (room 32)

IV. Working Group on Water Relations of Grapevines and Berry Fruits (room 8)

transport to hotels and conference dinner

Conference Dinner

Monastery Johannisberg

Friday, July 20th

08:30 *Section 1: Evapotranspiration and Canopy Processes*

- 10:00 Chairman: Jana Zinkernagel

Formation and Repair of Xylem Embolisms: Current State of Knowledge and Implications for Irrigation of Perennial Crops

Invited Speaker: Jochen Schenk

Control of Stomata by Rootstock-Sourced Signals Under Water Stress: A Model-Based Analysis in Grapevine

A. Peccoux, B. Loveys, P. Vivin, S. Delrot, H. R. Schultz, **Nathalie Ollat** and Z. W. Dai

A Novel Microfluidic Water Potential Sensor for Monitoring Water Status in Woody Plants and Soils

Vinay Pagay, A. N. Lakso and A. D. Stroock

10:00

C O F F E E B R E A K

- 10:30

10:30 *Section 3: Water Quality/ Water Re-Use and Salinity*

- 12:30 Chairman: Kostas Chartzoulakis

Long Term Salinity Impact on Grapevine While Irrigating with Treated Waste Water

Yishai Netzer, M. Shenker and A. Schwartz

Section 2: Irrigation Scheduling

Differential Effects of Deficit Irrigation on Fruit Quality for Five Strawberry (*Fragaria X Ananassa*) Cultivars

Idris El Tawil, S. Landahl and L. A. Terry

Statistical Analysis of Soil Water Dynamics Under the Influence of Irrigation

Sven Grashey-Jansen

Spatial Variation in Soil Humidity - Implications for Yield and Irrigation Management of 'Conference' pear

Wendy Odeurs, P. Janssens, T. Deckers, W. Verjans, J. Van Beek, P. Coppin and H. Vandendrie

Comparison of Different Grapevine Water Status Measurements

Daniel Hessdörfer, A. Schwab and B. Gruber

12:30

L U N C H

- 13:30