



**WATER MANAGEMENT FOR THE EUROPEAN FRUIT SECTOR WITHIN H2020
A POSITIONING DOCUMENT**

By

The EUFRIN[®] Working Group on “Water Relations & Irrigation”

HORTICULTURE is a key sector for EU ECONOMY, SOCIETY and ENVIRONMENT, representing the highest valued agricultural production (17% of the total agricultural turnover). Fruits provide essential nutritional values to EU citizens, due to high vitamins, minerals, fibre and nutraceutical contents, that help preventing important human diseases, like obesity, cancer and diabetes. Orchards also contribute to EU land preservation, climate regulation through evapotranspiration and stewardship.

Due to climate change and future resource limitations, future EU FRUIT PRODUCTION IS UNDER THREAT. Several phenomena are expected to occur, at global and regional scales, which have the potential to reduce yields and quality of products, thus jeopardizing the security of the EU horticultural supply, in a society with increasing population. These phenomena include: increased heat and water stress conditions; reduced water availability; competition of water use with other crops (both for vegetable protein and biofuel) and with human activities likely entailing geographical shifts of the growing areas for several species. These changes are expected to impact more the Mediterranean countries which will be the most exposed to temperature rises and water scarcity, while the resource of rain will keep stable with higher variability. As a whole, irrigation needs are expected to increase up to 20-30% by 2030. As perennials, fruits are particularly threatened by these changes and the risk for the farmer is emphasized by the higher economical and technological commitments that these crops require.

FUTURE WATER-RELATED ISSUES FACING EUROPE LACK SCIENTIFIC AND TECHNOLOGICAL SOLUTIONS. The first “green revolution” emphasised yields and product quality with no limits in natural resource utilization. The second “green revolution” has to improve water use efficiency by better knowledge of the tree in its environment. Although theoretical knowledge for increasing water use efficiency is already available, we lack enough applied technologies and knowledge transfer activities. A consequence is that most growers do not adopt them. Easy-to-use solutions that address environment, soil and plant variability will provide growers with the confidence that they are applying only the right amount of irrigation water at the right time, contributing to preserve the quality of water resources.

THESE GAPS CAN BE FILLED by promoting a new paradigm of “Bottom up” interactions between the various actors of the fruit chain, from the field to the consumer. It is based on a proactive exchange between EU stakeholders, including irrigation industry (hardware, sensors, software), and scientists of different disciplines (i.e. plant breeders, soil, climate and soil scientists, plant physiologists as well as sociologists and economists) on specific problems that are of concern in areas of Europe sharing similar water issues and where problem-solving research can provide the greatest benefits.

This “bottom-up” research dynamics will allow maintaining the competitiveness of the European fruit sector, as well as the employment capacity of the horticultural industry and providing better comfort to local populations during heat waves. Also, it will secure the regular supply of the different fruit species while allowing EU society to improve its current dietary cultures, which are based on a variety of foods and food sources.

EUFRIN, through its Working Group on “Water Relations & Irrigation” and the involvement of local, regional, national and international stakeholders, and research and technical organizations, is ready to take a proactive role to help the European Fruit sector to face the multi-faceted water issues that lay ahead.

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Chairman, Pierre-Eric Lauri
INRA Montpellier, France

Secretary, Brunella Morandi
University of Bologna, Italy

n	COUNTRY	ENDORISING STAKEHOLDER	EXPLANATION
1	Belgium	BelOrta cvba	Europe's largest cooperative auction (Vegetables Fruits & Bio)
2	Belgium	Bodemkundige van België v.z.w.	Soil service of Belgium
3	Belgium	PCFruit v.z.w.	Research station co-ordinating the research and advisory services of fruit growing on three locations in Limburg (Belgium).
4	Belgium	Vlaams Kenniscentrum Water (Vlakwa)	Flanders Knowledge centre for Water
5	Switzerland	Chambre Valaisanne D'agriculture – Grand Conseil du Valais	Umbrella organization for production, support and marketing of agricultural products – Parliament of Canton du Valais
6	Switzerland	Fruit Union Suisse	Swiss association of the fruit chain stakeholders
7	Switzerland	Christophe Darbellay -Representative of the Swiss Parliament	Member of the Swiss National council
8	Switzerland	Jean Réne Germanier - Representative of the Swiss Parliament	Member of the Swiss National council
9	Switzerland	Union Fruitière Lémanique Coop. Soc.	Growers cooperative of the Geneva lake region
10	France	Coop de France Aquitaine	Cooperative Society of Aquitaine
11	France	Association Nationale Pommes Poires	National association for apple and pear productions
12	France	Fédération des Fruits et Légumes Languedoc-Roussillon	Fruit and Vegetables Association
13	France	Pêches et Nectarines de France	
14	France	Council Général du Lot et Garonne	General Council of the 'Lot et Garonne ' region
15	Israel	The Plants Production and Marketing Board – Fruit Division	
16	Israel	Netafim Ltd.	World leading company for the production of irrigation systems
17	Italy	ANBI – Associazione Nazionale Bonifiche Irrigazione e miglioramenti fondiari	National Association of the italian water management Consortia
18	Italy	Apofruit Italia Soc. Coop. Agricola	Cooperative Society of Fruit and vegetables producers (national level)
19	Italy	Orogel Fresco Soc. Coop. Agricola	Cooperative Society of Fruit and vegetables producers (national level)
20	Italy	Unaprol Scarl	National association of the italian olive producers
21	Italy	C.E.R. Consorzio per il Canale Emiliano Romagnolo	Water management consortium in the Emilia Romagna region
22	Italy	CRPV – Centro Ricerche Italy Produzioni Vegetali Soc. Coop.	Extension Service representing all growers of the Emilia Romagna region
23	Italy	ASSOFRUIT Italia	Cooperative Society of Fruit and vegetables producers (national level)
24	Portugal	Centro Operativo Tecnológico Hortofrutícola Nacional (COTHN)	National Technological Centre for the Horticultural Sector.
25	Portugal	Instituto Superior de Agronomia (ISA)	National institute for Agronomy
26	Spain	AFRUCAT	Association of the Catalan fruit producers
27	Spain	Consejería de medio ambiente y ordenation del territorio de la Junta de Andalusia	Environment and land management department of the Andalusia regional government.
28	Spain	Grupo Hispatech Informatica Empresarial s.a.	ICT company focusing on water management and irrigation
29	Spain	Consejería de Agricultura, Pesca y desarrollo rural de la Junta de Andalusia	Agriculture, Fishery and Rural development department of the Andalusia regional government
30	Spain	Instituto Andaluz de Investigación y Formación agrarian y Pesquera, Alimentaria y de la Produccion Ecológica (IFAPA)	Andalusian Agrarian and Fishing technology Research and Education institute.