

COST863 Management Committee

and Workshop on

‘DEFINING NEEDS OF BERRY INDUSTRIES’

Lisbon and Odemira – Portugal

INRB-IP, Oeiras

19th to 21st of March 2009

MINUTES

Organised by

Pedro Oliveira, INRB-I.P., Oeiras, PT
Margaret Korbin, INSAD Skiernevice, PL
Bruno Mezzetti, UNIVPM-SAPROV, Ancona, IT
Claudia Santos, ITQB, Oeiras, PT
Luís Lopes da Fonseca, INRB-I.P., Oeiras, PT
Marta Baptista, Berrygardens plants, S. Teotónio, PT
Francisco Barreto

General organizer
EBA organizer
COST863 Chairman
Oeiras meeting
Odemira meeting
Industry – technical visit
Secretariat

Colaboration of:



Fundação Odemira

Sponsored by:

Caixa de Crédito Agrícola Mútuo de S. Teotónio
Câmara Municipal de Odemira
Berryport

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Chairman COST863

PRESENT

Margit Laimer da Camara Machado	AU	Djurdjina Ruzic	Serbia
Sven Clemens	BE	Gabriela Lubiakova	SK
Violeta Kandakova	BU	Darinka Koron	SL
Boris Duralija	HR	José López-Medina	SP
Joseph Špak	CZ	Birgitta Svensson	SV
Damianos Neocleous	CY	Christoph Carlen	CH
Torben Bo Toldam – Andersen	DK	Sezai Ercisli	TR
Hedi Kaldmäe	EE	Rex Brennan	UK
Paivi Parikka	FI	Jill Stanley	NZ
Béatrice Denoyes-Rothan	FR	Albino Maggio	BE
Erika Kruger	DE	Henrique Guedes-Pinto	PT
Vasilakakis, Miltiadis	GR		
Klára Nyerges	HU	<i>Not MC Members</i>	
Eamon Kehoe	IR	Fumiomi Takeda	USA
Bruno Mezzetti	IT	Magnus Engstedt	SW
Nir Dai	IL	Elvira Sipos	HU
Dalia Seglina	LV	Snjezana Sredojevic	Serbia
Audrius Sasnauskas	LT	Mathieu Billotte	FR
Bert Van Duijn	NL	Bozena Nosecka	PI
Rolf Nestby	NO	Nicola Fuzzati	IT
Malgorzata Korbin	PL	Annalisa Bacchi	IT
Pedro B. Oliveira	PT	Daniilo Bernardini	IT
Marjan Kiprijanovski	Macedon. Rep.	Dan Sargent	UK
Mihail Coman	RO	Emília Ondrušková	SK
		Lucélia Tavares	PT

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1 WELCOME

The local organizers, Luís Lopes da Fonseca and Pedro Oliveira, welcomed all the MC delegates at the COST863 MC.

The COST863 Chairman opened the MC meeting by thanking delegates of their participation and welcomed the participation of Albino Maggio as new scientific officer of the COST Action.

Before starting the meeting the agenda was adopted and the Minutes of last MC meeting approved.

2 WG LEADERS REPORTS

The 4 WG Leaders had short reports of the major activities carried out during the last year and evidenced the tasks and working activities now identified for the running and future activities. More details on these activities are available on the web page of the action including minutes of all meetings (<http://www.euroberry.it/workingroup/index.html>).

3 WG LEADERS CONFIRMATION

The Chairman of the action asked to confirm the WG leaders, but also underlined the importance of the contribution of the WG sub-leaders to support WG leaders in the organization of WG events and also for the preparation of reports and publications. All agreed also on the importance of the support from the local organizers.

4 STSMS REPORT STATUS, APPLICATIONS (R. NESBY)

Rolf Nestby reported briefly on Short Term Scientific Mission (STSM) approved from 1 June 2008 to 31 Dec 2008, as following reported.

Applications Approved:

Jacopo Diamanti (granted in the previous budget period), Università Politecnica delle Marche. Host: Kruger-Steden Erika and Helmut Dietrich; Geisenheim Research Centre, Germany. Period: from 07/04/2008 to 15/04/2008. The aim was to discuss common protocols on the analytical methods to be used to test strawberry fruit nutritional quality in relation to the effect of climate conditions.

Franco Capocasa, Università Politecnica delle Marche Dip SAPROV was approved for a STSM. Host: Els Desmet, Research Centre Hoogstraten (Belgium). Period: from 16/06/2008 to 13/07/2008. Topic: To understand the process of breeding, the nursery, and the different cultivation systems to the marketing of strawberries in Belgium, and to learn more about the different cultivation systems in Belgium.

Djurdjina Ruzic, Fruit Research Institute, 32000 Cacak (RS) was approved for a STSM.

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Host: Carmine Damiano ,Fruit Tree Research Center of the CRA,00134 Rome(IT). Period: 04/05/2009 to 19/05/2009. Topic: Potential of preservation of the selected genotypes by: Ca -alginate pearls (encapsulation); vitrification technique; encapsulation-dehydration technique.

Daniel James Sargent, East Malling Research, New Road, East Malling, Kent ME19 6BJ, UK. Host: Dr Amparo MONFORT, IRTA Cabrils, Ctra de Cabrils s.n., 08348 Cabrils (Barcelona) Spain. Period: 03/10/2008 to 03/11/2008. The aim was to develop superpools from strawberry BAC library, colonies grown and arrayed into cultures. DNA extracted, diluted and arrayed. Validation PCR: Superpools screened with previously mapped markers. BACs containing specific markers identified.

Lucélia Tavares, Instituto de Tecnologia Química e Biológica, Universidade Nova de Lisboa, Oeiras(PT). Host: Dereck Stewart, Scottish Crop Research Institute, Dundee, DD2 5DA, Scotland(GB). Period: 10/08/2008 to 23/08/2008. The aim of this STSM was to apply mass spectrometry (HPLC-PDA and LC-MS) for identification of metabolic compounds defined by their mass to charge ratio (m/z) in extracts obtained from

Portuguese endemic *Rubus* spp. tissues (fruits, leaves and roots).

Jon Stavang, The Norwegian Institute for Agricultural and Environmental Research. Horticulture and Urban Greening Division, Ullensvang, Lofthus (N). Host: Pauliina Palonen, University of Helsinki, Helsinki (FI). Period: 01/03/2009 to 29/03/2009. Topic: Strawberry flowering - temperature control

Damianos Neocleous, Dr. at Neocleous, Agricultural Research Institute of Cyprus, Nicosia (CY). Host: Miltiadis Vasilakakis, Faculty of Agriculture, Aristotle University of Thessaloniki, Greece. Period: Start date 26/01/2008. Topic: 'Antioxidant response of strawberry plants under stress conditions'.

Ilian Badjakov, Research specialist, Laboratory of Functional Genetics AgroBioInstitute bul. Dragan Tsankov 8, 1164 Sofia, BULGARIA. Host: SCRI, Dundee, Scotland. Host: Derek Stuart, Scottish Crop Research Institute, Invergowrie, Dundee, Scotland, (UK). Period: 20.04.2009 to 18.05.2009. Topic: Assessment of Bioactive constituents in cultivated raspberry genotypes and metabolome profiling in regard to their response to pathogen attack (*Phytophthora fragariae* var *rubii*)

Pamela Crespo, PhD Student at the plant science institute, Swiss Federal Institute of Technology of Zurich. Host: Leon Terry, Cranfield University, Bedfordshire(UK). Period: 15/02/2009 to 15/03/2009. Topic: to examine genotype-environment-cultivation interactions affecting the sensory and nutritional quality of strawberry fruits.

Sedat Serce, Dr. at Mustafa Kemal Univ., Agriculture Faculty Horticulture Department, Antakya, Hatay(Turkey). Host: Dr. Beatrice Denoyes-Rothan INRA – UREF, Villenave d'Ornon Cedex, (Fr). Period: 15 Feb. 2009 to 28 Feb. 2009. Topic: Selecting SSR primers to map the genes controlling fruit firmness in strawberry.

Urska Vrhovsek, Dr. at Vrhovsek, IASMA research center, San Michele all'Adige(IT). Host: Gordon McDougall, Scottish crop research institute, Invergowrie(UK). Period: 23/02/2009 to 13/03/2009: Topic: *Rubus* ellagitannins-comparison of different analytical methods.

Sandro Frati, CReSO – Consorzio di ricerca, sperimentazione e divulgazione per l'ortofruitticoltura piemontese, Cuneo(IT). Host: Edward Zurawicz, Instytut Sadownictwa i Kwiaciarnictwa, Skierniewice(PL). Period: 15/04/2009 to 30/04/2009.

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Topic: characterization of berries under the morphological and the molecular point of view.

Reports

Franco Capocasa, Daniel James Sargent and Lucelia Tavares have all delivered reports, which are accepted.

The webpage

The link to STSM under the webpage of Euroberry is adjusted according to information from the COST secretary in the report period.

Budget and account per 17 March 2008

Budget Euro 20 000 1. June 2008 to 31. May 2009.

Grants

Diamanti	540 (previous budget period!)
Capocasa	2230
Ruzic	1800
Sargent	1540
Tavares	1750
Neocleous	2500
Crespo	2000
Serce	1500
Stavang	2410
Vhrosek	2000
Fрати	1800
Badjakov	2500
Sum	22 030 (sum of the running budget period)
<u>+Diamanti</u>	<u>540</u>
Sum	22 570

5 EBA ORGANIZATION AND UPDATE ON EU BERRY PRODUCTION DATA (M.KORBIN)

A discussion was carried on the possibility to better promote and sustain integration in the science and technology of berry production. With this aim was proposed the formation of the 'Euroberry Association' (EBA), a consortium rather than a scientific society acting as a 'think tank'. The idea is that the COST members would start the EBA (98% of the EBA with COST (ESF) as the other 2%), then plan the sharing of the consortium with different stakeholders of the berry production chain. Still some concerns are about the legal document and about the text, particularly when it came to 'patents' and 'intellectual property rights'. However, several organizations working on small fruit in different countries expressed their interest to join this action at the different level, and this kind of support can be enlarged to other institutions at National level. To promote this idea was decided to work in getting more information on the type of organization that can be proposed and in preparing a short document to be

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submitted to different private institutions for presenting this initiative. The new institutions showing an interest to this initiative can be invited to the MC meeting for discussing together the potential role and type of organization. Within 2007 can be also expected a meeting specifically dedicated to starting EBA, if we will be able to accomplish all the institutional steps for involving the first public and private institutions.

Research-based collaboration between Scientists and Farmers under umbrella of COST Action 863

Agricultural research is unique in the sense that results are aimed to benefit both farmers and consumers (end-buyers). Scientists involved in agricultural research (like scientists in other areas), have become more and more specialized knowing more and more about less and less. In other words, agricultural scientists especially the young ones are more familiar with specific molecular technologies and less familiar with the whole plant.

The above situation results in a knowledge gap which characterizes the modern generation of agricultural scientists who are to some extent remote from the everyday agricultural activities. One solution to improve this situation is collaboration between balanced networks of scientists and farmers of various crops. Such collaboration has the potential to bridge the knowledge-gap regarding current possibilities, dilemmas and problems faced by the farmers. This includes issues like agro-technology, plant protection, breeding of new cultivars and others.

Thus, to put this collaboration into a system (EBA – European Berry association) that will promote a continuous collaboration and dialogue between farmers or farmer's organizations and scientists, can serve as a tool to front the development in the area forced through by new technology, changing of climate and demands of the society. This can in turn point to links between farmers and scientists, who will then be able to apply their knowledge in order to suggest solutions to different tasks raised by EBA.

In addition to make the agricultural research more "relevant" to real agricultural problems, a closer dialogue and collaboration between farmers and scientists has several other advantages:

A. Some of the experiments aimed at giving solutions can be carried out under commercial conditions rather than at University or Research Institutional sites, and by so making the farmers better identifying themselves with the research.

B. By the same token, the results of the research can be tested under commercial conditions.

C. Collaboration between farmers and agricultural scientists is not confined to the definition of the tasks to be solved, but may result in financial support of the research directly by the farmers. On the other hand, a research project may generate royalties/grants that would pay both research institute(s) and the farmers' organization(s) for actual work in the project.

In addition fruitful collaboration between farmers and scientists has the overall benefit of creating good relationships between the two sectors, which will help in release public support of research activities rather than animosity against scientists who may be regarded as detached from "real life".

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On the other hand, one should not ignore potential dangers of such collaboration between scientists and farmers:

A. Agricultural research should not be restricted to problems that are defined by the farmers as bottlenecks, but should include issues of future vision, understanding of genetic and biochemical systems and research projects aimed at paving the way for future breakthroughs. Usually these issues are not in the top priority of farmers, and one should avoid a situation of collaboration that threatens the investment in essential research..

B. Another pitfall is that research projects should not be determined solely on the basis of the magnitude of the task, but should rather be assessed on the basis of both the technology and the feasibility of the solution (the idea and the methodology) suggested by the scientists. One should be aware of the danger that problems raised by farmers may get priority by the decision-makers, irrespective of the suitability of the tools applied to tackle these problems.

C. There are known cases in which there are conflicts of interests between farmers and customers and between different farmers' organizations. One should be aware of these conflicts and generate a system of collaboration which will not be affected by such conflicts.

All these reasons cause necessity to create strong system for proper collaboration making European berry production more competitive and focused on actual agricultural investigations. COST 863 which through its member states, perform advanced scientific activity and excellent collaboration between dominant European research institutions within this field, seems in the nearby years to be the best platform for generation of a formal collaborative action (ESA).

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6 YEAR BUDGET AND PLANNING

In the following table are reported data on costs for each meeting already held and also an estimation for meeting already programmed before June 1st 2009.

Expected budget 54.000 fixed + 2000 per signatory country:				TOTAL 154000 (+50000)	
Plan June 08- May09	Experts	Days	xdiem		
Climate WS Geisenheim	35	3	813	28456	oct-08
WS suppor				2000	
WS ActaPubblcation				6000	
WG1-4 JM Zurich	30	3	838	25154	dic-08
WG1 Varity Network Lithuania	15	3	953	14298	gen-09
WG2-3 Biotic Abiotic Stress Sofia	20	3	1039	20774	mar-09
MC SME Lisbon	50	4	820	40176	mar-09
Beery School and FOOD Conf	50	7	1000	50000 Extim	may 09
GASC Web				2000	
STSMS x 12	12		1600	22570	
Total				212252	
Next year program - Extimation					
WG1&2 JM In vitro Serbia	15	3	900	13500	June 2009
ICPH2009 Phenol Symp- Leeds Univ	15	4	900	13500	Dec 2009
Virus conference	20	3		18000	July 2009
STSMs				25000	
2-3 SGMS				20000	
IHC 2010 Publication and Conference supp	50		1000	50000 10000 15000	Aug 2010
TOTAL TO BE REACHED (Extimated)				160000	

A specific plan of activities has been discussed and the following events were decided:

May 2009

COST863 - Summer Berry School

Title: Genetic approaches for improving berry adaptability and nutritional quality

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Date: May 25 – 30
To be held in Ancona
Convener: Bruno Mezzetti
Participants (students and professors):35-40

JUNE 2009

WG1 and 2 JM on Berry in vitro biotechnology
Date: June 17-20
To be held in Cacak – Sebia
Convener Dr. Djurdjina Fruit Research Institute
Max 25 WG1-2 experts

July 2009

W2- Wg3 Joint to the Virus conference
To be held in Germany
Convener Dr. Josef Spack
Max 20 WG1-2 experts

December 2009

WG4 meeting joint with The 4th International Conference on Polyphenols and Health (ICPH2009) - Harrogate International Centre from 8th – 10th December, 2009.
<http://www.polyphenolsandhealth.org.uk/>
Convener: Gary Williamson, University of Leeds, UK
COST meeting to be held on Monday 7th, then some speakers and posters will be included in the Conference sections
Max 25 WG4 experts
Support for the conference: 2000, this will save some from the registration fee.

Other 2-3 SGMs meetings can be organized depending to the amount of budget available. Topics and locations have to be discussed, colleagues from Turkey offered to organize a SGM in their country

Final Workshop AUGUST 2010

Considering the availability to have a berry symposium joint to the International Horticultural Congress IHC2010, planned in Lisbon next August 2010, the organization of this symposium was discussed. This possibility is related to the acceptance from the COST office to have the final Workshop postponed to August 2010 when the end of the Action is expected for April 2010. This was already discussed and accepted at the last year MC meeting held in Huelva. A confirmation from the COST office is now expected. This opportunity will give to the Action a very large visibility and the opportunity to have a final Acta Horticulturae published within the ISHS framework. For this reason was decided to expect an allocation for such event up to 70000 euro, of which about 50000 euro to cover the expenses for one MC delegate of each country that signed the COST863 MoU, plus invited speakers included in the program, 10000 euro will be addressed to the local organizers for organization expenses, and finally 10000 euro for the publication of the Acta Horticulturae. Considering this support the ISHS organizers will accept to reduce of 50% the registration fee for the Congress.

7. PUBLICATIONS, ANNUAL REPORT

A publication program was proposed including the following priorities:

- WG2 Monography on berry Tissue Culture coordinated by Djurdjina Ruzic (Serbia), for the publication of this monography was decided to allocate a budget up to 2999 euro, the work has been done several chapters were prepared, now under evaluation by two referees, the publication can be expected early next June.
- WG4 Dott. Battino (sub-leader) already informed that a second special issue of 9 papers related to berry is now in publication of **Biofactor**.
- From the Climatic WS held in Geisenheim (GE) were collected 35 papers, now already almost completed reviewed and ready for the publication on *Acta Horticulturae*. The MC accepted to support these costs.
- From the meeting on cultivation systems held In Pola was decided to attempt another publication on the Croatia Journal (*Pomologia Croatica*), at the moment only 4 papers were collected and hopefully they will be able to collect more papers so to have this issue published before the end of the year
- Other common publications have been discussed and planned for each WG and prepared before the end of the Action.
- The annual report will be updated by the coordinator of the Action.

8. WEBPAGE

Furthermore, the major and common shared dissemination tool is the Action webpage (www.euroberry.it), which is updated with all the information related to the different activities and reports of STSMs and SGM. The GASC support expected for the coordinator for updating the webpage was confirmed.

9. COST863 IN FP7

The possibility to have a theme specifically related to berry included in the next 2010 FP7 call was discussed. In order to better organize a proposal, considering the difficulty to include all COST863 members, was decided to collect the Expression of interest of the different groups and identify evaluation criteria useful to identify the partnership showing the highest scientific level, complementary competences and European dimension, as in general requested for such type of EU project.

10. DO WE NEED ANOTHER COST ACTION ON BERRY

The possibility to start to think for a future new COST Action was discussed. Considering the importance, the dimension and the quality of activities reached with this Action all the delegates agreed to start to plan in due time a new proposal clearly by identifying new thematic and experts that can be involved in an innovative proposal.

11. TIME AND PLACE OF NEXT MC MEETING

It was decided to have the next and final COST863 MC combined with the Lisbon Berry Symposium at the IHC2010.

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12. BERRIES IN EU RESEARCH

After the MC was organized a section dedicated to the discussion on how berry could be better included in other EU programs. This discussion was introduced by presentations held by **Albino Maggio**, Food and Agriculture COST Scientific officers, **Professor Henrique GUEDES-PINTO Pinto** - Food and Agriculture COST National delegate - Depto Genetica e Biotecnologia - Universidade de Tras-os-Montes e Alto Douro, Villa Real PT, **Doutora Maria João Fernandes**, Overview of Food, Agriculture and Biotechnology in FP7 FP7 National Contact Point 'Health'; 'Food, Agriculture and Fisheries and Biotechnology', GPPQ – Gabinete de Promoção do 7º Programa-Quadro de IDT / FP7 Promotion Office

13. EXPERTS STSM REPORTS

The last section of the MC was the presentation of the work carried out by three scientists thanks to the STSM program. Rolf Nestby, coordinator of the STSMs program introduced the following scientists and their presentations:

Lucélia Tavares, Phytochemical profiling of different tissues from Portuguese endemic *Rubus* species - Instituto de Tecnologia Química e Biológica, Universidade Nova de Lisboa, Oeiras, Portugal

Daniel James Sargent, Construction of Pools and Superpools for PCR analysis of a *Fragaria vesca* BAC library - East Malling Research, New Road, East Malling, Kent ME19 6BJ, UK

Emília Ondrušková, Biotechnology of *Vaccinium species* for the conservation and utilization of valuable genetic resources. Institute of Plant Genetic and Biotechnology, Slovak Academy of Science, Nitra

14. AOB

Non other items remained to be discussed and the Chairman of the Action declared the closure of the MC meeting.

Bruno Mezzetti



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Lisbon, March 19, 2009