

GRAIN LEGUMES

Working Group progress during the first part of Phase IX (2014-2015)

On December 2014, I was officially announced that I have been nominated as Chair of the Grain Legumes Working Group, and this report envisages only the activity of 2015.

This mission honors me and also motivates me, having in mind all achievements of previous Chair, Mr. Mike Ambrose.

In our previous meeting, held in 7-8 May 2013 in Novi Sad, Serbia the development of crop specific interest groups inside of the group, it was decided as follows:

Table 1. Crop-specific interest groups

Crop	Coordinators	Members
<i>Cicer</i>	S. Kratovalieva (MKD) and another to be confirmed	O. Bezougla (UKR), I. Huňády (CZE), V. Kirian (UKR), A. Pallides (CYP), S. Petrova (BGR), E. Tuğay Karagül (TUR)
<i>Lathyrus</i>	To be confirmed	V. Kirian (UKR), A. Pallides (CYP), S. Petrova (BGR), W. Pybiński (POL), S. Silenko (UKR), M. Vasić (SRB)
<i>Lens</i>	L. de la Rosa (SPA)	I. Huňády (CZE), V. Kirian (UKR), L. Kobyzova (UKR), M. Perez de la Vega (SPA), E. Tuğay Karagül (TUR), M. Vasić (SRB)
Lupin	B. Ruge-Wöhling (DEU)	G. Duc (FRA), I. Huňády (CZE), S. Petrova (BGR), W. Święcicki (POL), M. Yauseyenko (BLR)
<i>Peanut</i>	S. Kratovalieva (MKD) and R. Hovav (ISR)	
<i>Phaseolus</i>	V. Meglič (SLO) and M. Vasić (SRB)	O. Bezougla (UKR), C. Brezeanu (ROU), I. Huňády (CZE), W. Kainz (AUT), V. Kirian (UKR), S. Kratovalieva (MKD), A. Sudaric (HRV), E. Tuğay Karagül (TUR)
<i>Pisum</i>	Kull Annamaa (EST) and Mike Ambrose (GRR)	G. Carlsson (SWE), G. Duc (FRA), I. Huňády (CZE), H. Kärkänen (FIN), I. Kutiyeva (UKR), A. Pallides (CYP), M. Perez de la Vega (SPA), S. Petrova (BGR), G. Poulsen (DNK), S. Solberg (NordGen), W. Święcicki (POL), E. Tuğay Karagül (TUR)
Soybean	To be confirmed	I. Huňády (CZE), L. Kobyzova (UKR), L. Narits (EST), G. Poulsen (DNK), A. Sudaric (HRV), E. Tuğay Karagül (TUR)
<i>Vicia faba</i>	E. Tuğay Karagül (TUR)	M. Ambrose (GBR), G. Carlsson (SWE), G. Duc (FRA), I. Huňády (CZE), H. Kärkänen (FIN), V. Meglič (SVN), L. Narits (EST), S. Petrova (BGR), G. Poulsen (DNK), M. Vasić (SRB)
<i>Vigna</i>	To be confirmed	O. Bezougla (UKR), C. Brezeanu (ROU), E. Tuğay Karagül (TUR)

In present, the Grain Legume Working Group is structured as listed below:

- 24 genebank curators, 35 crop specialists, 14 info/documentation experts, 21 plant breeder, 9 policy and law experts and 3 other expertise.
- The group is active in a number of 42 countries and counts 106 members.

In order to ensure: (a) identifying gaps or redundancies in the European Collection; (b) promoting inclusion of valuable accessions into the European Collection; (c) monitoring implementation of genebank standards; (d) setting priorities for characterization/evaluation; (e) setting priorities for

regeneration; (f) sharing responsibilities for any of the above-mentioned tasks; (g) any other aspect that can improve the quality, efficiency and utilization of the collection, and having the entire support of the Secretariat and also the expertise of the members the group activity was concentrated in tow direction:

- (1) Group implication in different European projects.
- (2) Focus on funding opportunities in order to ensure the group unity and to add value by the accomplished results.

(1) Group implication in different internationally projects – on behalf on ECPGR I participated at BEAN_ADAPT kick-off meeting organized at Global Crop Diversity Trust, Bonn (Germany, 10 – 12 August 2015.). The participation was performed as chair of the Grain Legumes Working Group, ECPGR at the invitation of the BEAN_ADAPT project Consortium.

The BEAN_ADAPT is an ERA_CAPS project, developed by a consortium of five European and American research entities, is a project structured in seven WP and funded for a period of three years, starting with April 2015.

The project seeks to understand the genetic architecture of adaptation of the common bean (*Phaseolus vulgaris*; *Pv*) and its cross-compatible sister species, the runner bean (*Phaseolus coccineus*; *Pc*), in their centers of origin in the Americas and following their dispersal to Europe, as a model for future major environmental and socio-economic changes, such as increases in temperature, variability in rainfall, and new consumer preferences.

The main aim of this project is to dissect out the genetic basis and phenotypic consequences of the adaptation to new environments of the common bean and its sister species, the runner bean, through the study of their introduction, from their respective centers of domestication in the Americas, and expansion through Europe, as a recent and historically well-defined event of rapid adaptation.

The specific aims of this project include:

- Comparative analysis of the genetic diversity and population structure between the American and European germplasm of *P. vulgaris* (*Pv*) and *P. coccineus* (*Pc*), using genomics, molecular phenotyping (transcriptomics, metabolomics) and field trials at multiple locations. Identification of genes/ QTLs that control important agronomic and adaptive traits, particularly phenology.
- Develop a unified information system that will integrate the large amount of data generated by BEAN ADAPT, which will also facilitate data sharing, both within the project and externally, by linking up the data to the European Search Catalogue of Plant Genetic Resources (EURISCO).
- Promote the efficient use of *Phaseolus* PGRs by the development of an integrated information system that will be linked with Genebanks management and enhanced by the development and characterisation of 20,000 *Pv* purified lines.
- Dissemination of the results to scientists, gene bank curators, and breeders.

A large part of the meeting was dedicated to conclusions, both parts the BEAN_ADAPT consortium and potential participants, tried to design bridges for future cooperation, according to the BEAN_ADAPT objectives and related with developed research activities. In this part of the meeting I had a presentation available at:

[http://www.ecpgr.cgiar.org/fileadmin/templates/ecpgr.org/upload/Presentations/Creola_BREZEANU_ECPGR_for_BeanAdapt_Final_web_NXPowerLite .pdf](http://www.ecpgr.cgiar.org/fileadmin/templates/ecpgr.org/upload/Presentations/Creola_BREZEANU_ECPGR_for_BeanAdapt_Final_web_NXPowerLite.pdf), developed with a strong support of Mr. Lorentzo Maggioni, ECPGR Secretary.

The ECPGR proposals for future cooperation were:

- Provision of genebank accessions to the project;
- Offer of evaluation sites in different environments;
- Exchange of information;
- Dissemination of results through ECPGR channels (web sites, bulletins);

A letter of expression of interest was signed for above activities.

Other two members of our group attended to the meeting as representatives of their institutes:

Ms Aleksandra Savić, Institute of field and vegetable crops Novi Sad Serbia
Mr Vladimir Meglič, Kmetijski inštitut Slovenije Ljubljana Slovenia

(The extended meeting report, developed by the chair, with valuable support of Ms. Elinor Lipman Scientific Assistant, available at:

http://www.ecpgr.cgiar.org/fileadmin/templates/ecpgr.org/upload/WG_UPLOADS_PHASE_IX/GRAIN_LEGUMES/RE_ECPGR_Meeting_report_BONN_2015_final_web.pdf.)

(2) Focus on funding opportunities in order to ensure the group unity and to add value by the accomplished results.

As a result of participation to above mentioned meeting, the chair and the other two ECPGR _Grain Legumes WG members, participants to the meeting, decided together for the importance to find some financial solution inside ECPGR, in order to link the BEAN_ADAPT project and ECPGR.

ECPGR Activity Grant Scheme - Second Call was closed at that moment, but taking in consideration the importance of the establishment for cooperation with Bean adapt Project, with support of Ms. Eva Thörn and Secretariat the group submitted a proposal in order to be evaluated in the frame of second call.

The coordinator of SMARTLEG proposal was Mr. Vladimir Meglič. The involved partners were:

Self-funded partners

Partner No.	Name and Surname	Institute	Country
1	Roberto Papa	Universita Politecnica delle Marche (UNIVPM)	Italy

Funded partners

Partner ID No.	Name and Surname	Institute	Country
1	Vladimir MEGLIČ	Kmetijski inštitut Slovenije	Slovenia
2	Creola BREZEANU	Vegetable Research and Development Research Station Bacau Romania	Romania
3	Mirijna Vasic	Institute of field and vegetable crops	Serbia

4	Aleksandra SAVIĆ	Institute of field and vegetable crops	Serbia
5	Pedro Antonio Casquero Luelmo	University of Leon	Spain
6	Antonio M. De Ron	Misión Biología de Galicia - CSIC	Spain
7	Marina Antic	University of Banjaluka	Bosnia Herzegovina
8	Lubov Kobyzeva	Institute of Plant Production n.a. V.Y. Yurjev of the National Agricultural Academy of Science of Ukraine (NAASU)	Ukraine
9	Miguel Angelo Carvalho	Banco de Germoplasma ISOPlexis Universidade de Madeira Campus da Penteada	Portugal
10	Aida Virginia Gonçalves Reis	Banco Português de Germoplasma Vegetal Instituto Nacional de Investigação Agrária e Veterinária (INIAV)	Portugal
11	Ingrid Bender	Estonian Crop Research Institute	Estonia
12	Athanasios Mavromatis	Dept. of Agricultural Crop Production and Rural Environment University of Thessaly	Greece

Unfortunately the project submitted by the Grain legumes Working Group “SMARTLEG” has not been awarded as the Executive Committee was not of the opinion that it would be possible to accept the justification for late submission. However, the Activity proposal has also been generally discussed in its content and a few suggestions have been made for improvements, in case we will decide to re-submit the proposal under the next call.

Grateful for received suggestions we improved our proposal and we applied in the frame of The Third Call of the ECPGR Activity Grant Scheme together with other seven groups, according to the ECPGR site.

Proposal title: Efficient management of resources for smart legumes utilization – SMARTLEG

Coordinator: Vladimir MEGLIČ

Prof. Roberto Papa – the coordinator of the ERA_CAPS project BEAN_ADAPT, accepted to join us in our proposal, as self funded partner.

Other members of team project:

Partner ID No.	Name and Surname	Institute	Country
1	Mr Vladimir Meglič	Kmetijski Inštitut Slovenije (Agricultural Institute of Slovenia)	Slovenia
2	Ms Creola Brezeanu	Vegetable Research and Development Station, Bacau, University of Agricultural Science and Veterinary Medicine, Iasi	Romania
3	Ms Nune Sarukhanyan	Green Lane' Agricultural Assistance NGO	Armenia
4	Ms Marina Antić	University of Banja Luka, Genetic Resources Institute	Bosnia and Herzegovina
5	Ms Mirjana Vasić	Institute of Field and Vegetable Crops	Serbia
6	Ms Aleksandra Savić	Institute of Field and Vegetable Crops	Serbia
7	Mr Antonio de Ron	Mision Biologica de Galicia (MBG) Spanish National Research Council (CSIG)	Spain
8	Mr Pedro A. Casquero	Dept of Agrarian Eng. and Sciences, Area of Crop Production University of Leon Avda	Spain

9	Mr Carlos Polanco de la Fuente	Dept of Agrarian Engineering and Sciences, Area of Crop Production University of Leon Avda	Spain
10	Ms Lubov Kobyzeva	Institute of Plant Production n.a. V.Y. Yurjev of the National Agricultural Academy of Science of Ukraine	Ukraine

The proposal is under the process of evaluation.

Correspondence in group has as main subject:

- the activity proposal in second and third call,
- (2016) the Crop-specific genebank standards – the group has some comments,
 - INRA Dijon – Dr. Gerard DUC - Majority of remarks come from their specific constraints (costs) on the *Vicia faba*, collection (large seeds, low multiplication rate, allogamy requiring insect-proof cages, and finally a large collection with numerous accessions)
 - Ing. Wolfgang KAINZ - Institut für Saat- und Pflanzgut, Pflanzenschutzdienst und Bienen Abteilung Pflanzengenetische Ressourcen
 - Suceava Gene Bank of Romania – Dr. Danela MURARIU

I have the pleasure that in the name of the group to express special thanks for entire support to

- Mr. Lorenzo Maggioni, ECGPR Secretary
- Mr. Jan Engels AEGIS, Coordinator
- Ms. Elinor Lipman, Scientific Assistant
- Ms. Lidwina Koop, Programme Assistant

Personally, I have received always answers to all my questions related to ECPGR activities, and it was a pleasure to communicate and to receive support from people I never meets face to face (Ms. Elinor Lipman and Ms. Lidwina Koop).

If my feedback was not a proper one please excuse all gaps, 2015 was a very special year for me from many view points, and I am glad and honored to activate in group of Grain Legumes.

Creola BREZEANU