

ECPGR Brassica Working Group

Report on the progress of the group during the first part of Phase IX

(2014-2015)

The Brassica Working Group is represented by the following 65 members listed below:

Enver Tome (Albania, Plant breeder), **Laura Tadevosyan** (Armenia), **Paul Freudenthaler** (Austria, Policy and law), **Wolfgang Kainz** (Austria, Genebank Curator, Information/Documentation), **Stanislau Grib** (Belarus, Policy and law), **Nadzeya Lis** (Belarus, Information/Documentation), **Yadviga Pilyuk** (Belarus, Genebank curator, Plant breeder), **Anatoly Yakimovich** (Belarus, Genebank curator, Plant breeder), **Hervé De Clercq** (Belgium, Applied Genetics and Breeding), **Lutvija Karić** (Bosnia and Herzegovina, Information and Documentation), **Marina Antić** (Bosnia and Herzegovina, Crop specialist), **Vida Todorović** (Bosnia and Herzegovina, Crop specialist), **Elma Sefo** (Bosnia and Herzegovina, Crop specialist), **Ivan Aleksiev** (Bulgaria, Crop specialist), **Zdravko Matotan** (Croatia, Information/documentation), **Smiljana Goreta** (Croatia, Genebank curator), **Angelos Kyratzis** (Cyprus, Genebank curator), **Pavel Kopecký** (Czech Republic, Genebank curator), **Gert Bundgaard Poulsen** (Denmark, Genebank Curator), **Küllli Annamaa** (Estonia, Crop specialist, Plant breeder), **Lea Narits** (Estonia, Genebank Curator), **Alain Label-Richardson** (France, Genebank Curator), **Ana Devidze** (Georgia, Genebank curator), **Ulrike Lohwasser** (Germany, Crop specialist), **Holger Budahn** (Germany, Plant breeder), **Holger Scheffczyk** (Germany, Plant breeder), **Wolfgang Friedt** (Germany, Plant breeder), **Reinhard von Brook** (Germany, Plant breeder), **Zsuzsanna Kollár** (Hungary), **Attila Kristó** (Hungary, Genebank Curator), **Oz Barazani** (Israel, Crop specialist), **Ferdinando Branca** (Italy, Genebank Curator, Crop specialist), **Roberto Lo Scalzo** (Italy, Crop specialist, food technology), **Liga Lepse** (Latvia, Crop specialist), **Dainis Rungis** (Latvia, Crop specialist), **Agnese Gailite** (Latvia, Genebank curator), **Sarmīte Rancāne** (Latvia, Crop specialist), **Maureen Delia** (Malta, Crop specialist), **Natasa Mirecki** (Montenegro, Genebank curator), **Noor Bas** (Netherlands, Genebank Curator), **Magnor Hansen** (Norway, Crop specialist), **Marcin Zaczyński** (Poland, Plant breeder), **Henryk Wos** (Poland, Information/documentation), **Piotr Kaminski** (Poland, Genebank curator, Crop specialist, Information/documentation), **Eduardo Rosa** (Portugal, Plant breeder), **Benvindo Martins Maçãs** (Portugal, Policy and law), **Maria Paula Coelho** (Portugal, Policy and law), **Violeta Lopes** (Portugal, Crop specialist), **Silvia Străjeru** (Romania, Policy and law), **Maria Calin** (Romania, Genebank curator), **Mihai Giurcă** (Romania, Policy and law), **Tina Oana** (Romania, Crop specialist, Plant breeder, in vitro multiplication), **Floarea Burnichi** (Romania, Crop specialist, Plant breeder), **Anna Artemyeva** (Russia, Plant breeder), **Janko Červenski** (Serbia, Plant breeder), **Ana Marjanović Jeromela** (Serbia, Plant breeder), **Suzana Pavlović** (Serbia, Plant breeder), **Jesús María Ortiz Marcide** (Spain, Genebank Curator), **Antonio de Haro Bailón** (Spain, Crop specialist), **Jens Weibull** (Sweden, Policy and law), **Anna Palmé** (Crop specialist, oil crops), **Gunilla Berg** (Sweden, Crop specialist), **Bo Gertsson** (Sweden, Plant breeder), **Annette Hägnfelt** (Sweden, Genebank Curator, Crop specialist), **Kjell-Åke Lundblad** (Sweden, Information/Documentation), **Christian Eigenmann** (Switzerland, Information/Documentation, Policy and law), **Christina Kägi** (Switzerland, Information/Documentation, Policy and law), **Markus Hardegger** (Switzerland, Information/Documentation, Policy and law), **Charlotte Allender** (United Kingdom, Crop specialist), **Frances Gawthrop** (United Kingdom, Plant breeder), **Richard Tudor** (United Kingdom, Crop specialist), **Lesley McCarthy** (United Kingdom, Crop specialist), **Ray Moran** (United Kingdom, Genebank Curator), **Peter Glen** (United Kingdom, Trait genetics), **Graham Teakle** (United Kingdom, Crop specialist)

A.1. AEGIS-RELATED TASKS

A.1.1. Crop Conservation Workplan

Consultation with the WG members has to establish cooperative action in view to find contributions and funds in view to evaluate the Brassica accessions conserved in the European genebanks, and listed in the Bras-EDB (<http://ecpgr.cgn.wur.nl/Brasedb/default.htm>), in view to define the MAAs to involve in AEGIS. This first step of work is in progress by the COHEVA BRAS project funded by the first ECPGR call for proposal project, but are already available the results of two previous BRASSICA ECPGR projects funded by the VIII ECPGR phase, which analyzed several Brassica CWR populations and *B. rapa* diversity conserved in Europe. The data till now acquired are useful for the plan activity plans elaborated by the AEGIS Associate Members for each WG in relation of the current European Collection available in AEGIS website and the genebank operational manuals and the agreed technical standards.

The Workplan for the IX phase will cover the following tasks:

- a. Identifying gaps or redundancies in the Bras-EDB;
- b. Identifying MAAs for AEGIS;
- c. Implement and monitoring genebank quality standards;
- d. Continuing the activities of characterization/evaluation;
- e. Individuate priority of regeneration;
- f. Sharing responsibility among the BWG members;

With regards to the above-cited tasks the state of art is the following:

- i. In the frame of the some research projects, such as for the ECPGR BWG project phase VIII (http://archive-ecpgr.cgiar.org/archive_up_to_phase_viii/vegetables/brassica/brassica_project_csic.html), PGR secure project (<http://www.pgrsecure.org/>), CHOCEV BRAS project (http://www.ecpgr.cgiar.org/fileadmin/templates/ecpgr.org/upload/ACTIVITY_GRANT_SCHEME/proposals-first-call/COCHEVABRAS_revised.pdf), contributed to the objects of the ECPGR and AEGIS, such as for the projects of the
- ii. The secretariat ask to the BWG chair to verify the formal acceptance of the FAO Genebank Standards for PGRFA which were accepted with few variation of specific standards related to the Brassica CWRs.

A.1.2. OVERSIGHT of ASSOCIATE MEMBERS' EUROPEAN COLLECTION MANAGEMENT

Provide technical assessment of annual reports for *Brassica* genepool upon consolidation of the Associate Members' reports. BWG chair will provide suggestions, in consultation with the Secretariat, on corrective actions, capacity of building activities and/or collaborations with the Associate Members.

A.2. OTHER TASKS

A.2.1. PROVIDE INFORMATION

The new IX ECPGR phase started in 2014 by nomination of members and chair of BWG and till now all members do not know each others. For that we established a facebook group profile (<https://www.facebook.com/groups/994868347244443/>) in view to have an additional tool to talk each other and facilitate the cooperative work.

In brief the main milestones of these first two years (2014-2015):

11 June 2014 nomination as member of the ECPGR BWG

10 September 2014 e-mail message to all BWG members by email:

Dear ECPGR BWG partners,

till now arrived manifestation of interest for the ECPGR grant from SCLB (Romania) dr. Maria Calin, from CSIC Cordoba (Spain) dr. Antonio De Haro, from NGB dr. Gert Poulsen, from Vila Real University Dr. Aires, from IPK dr. Lohwasser Ulriche and finally from BPGV dr. Violeta Lopez in that order. Dr. Lopez sent a proposal for Portuguese group which do not consider Vila Real ones and in any case the budget for PT will be shared by the several units.

In general the idea is to continue the work of collection and to start with the regeneration of the accessions already collected in view to render them available to the users and to analyse *B. oleracea* landraces(in the last ECPGR project we considered *B. rapa* ones) widespread in Europe for morphological, biochemical and genetic traits (...omics).

I suggest to establish one evaluation field in Catania we can co-fund but another one could be interesting to establish in other environmental conditions. Please let me know who is interested to establish an evaluation field. Of course the bio-morphological traits and the freeze-dried samples of leaf and the DNA samples has to be managed by the units involved in the evaluation fields in view to share and send them to the units which will analyse biochemical and DNA traits. I do not know if we have enough seeds for accession for managing also some evaluation for pest and disease resistance to share for several research units.

As I said the activities has to be co-funded by some other projects each research unit is developing.

I will send you the proposal draft ASAP in view to define and present it in time.

Waiting for your additional news

29 September 2014 Presentation of CHOCEVA BRAS proposal project

8-10 December 2014 the approved the COCHEVA BRAS project and nominated me Chair of the BWG by the Steering Committee

20 December 2014 communication to the BWG the CHOCEVA BRAS project was approved with the following message:

Dear colleagues and members of the ECPGR Brassica WG,

Kindly note that the ECPGR Executive Committee, during its recent meeting on 8-10 December 2014 approved for funding the proposal 'COCHEVA BRAS'.

The Steering Committee will have to clear the decision with regard to the partnership in the projects because some of you are not proposed by the national ECPGR representative to be involved in the ECPG Brassica Working Group, so please let me know your position about.

The ECPGR Secretariat will contact soon me for the above formalities to be completed, regarding the Letter of Agreements to prepare.

Please note that we have been granted funding up to a maximum limit of € 15,000 do the ECPGR Secretariat will ask me for a revised budget table will during the preparation of the Letter of Agreement.

I wish to take this opportunity to congratulate all of us for this proposal and look forward to a successful implementation.

In addition I inform you dr. Gert Kleijer, chair of the ECPGR ExCo, communicated my nomination as chair of an ECPGR Working Group, as decided by the Executive Committee during its last meeting in Maccarese, December 8 – 10.

I would like to take this opportunity to wish you and your family a Merry Christmas and a very happy 2015.

As part of the preparation process of background documents for the 14th (Mid-Term) Steering Committee meeting (Trebinje, May 2016), all Working Group members are invited to respond to the online questionnaire: https://www.surveymonkey.com/r/ECPGR_MoO_PhaseIX

I would very much appreciate if you could reply to the survey within the end of January 2016.

This questionnaire is intended to evaluate, based on your experience and judgement, the effectiveness of the ECPGR Mode of Operation towards reaching its long-term goal and objectives.

1 January 2015 COCHEVA BRAS project – starting up by several email messages

1 April 2015 COCHEVA BRAS project – accessions sowing in Braga and in Catania for establishing characterization/evaluation fields

1 May – 15 June 2015 Technical standards for Brassica genepool – as WG Chair I contacted the WG members for their endorsement of the standards; in some case related to Brassica CWRs some specifications made regarding FAO standards were suggested by Ferdinando Branca, Alain Label and Violeta Lopez.

1 July 2015 COCHEVA BRAS project – Transplanting characterization/evaluation fields in Braga and in Catania

20 April 2015 Second call for proposal ECPGR Activity Grant Scheme

31 December 2015 I sent the following message to the BWG member:

Dear Brassica WG members,

My best wishes for a happy and peaceful 2016!

You are invited to begin member of our Facebook profile (<https://www.facebook.com/groups/994868347244443/?fref=ts>) in view to facilitate our interaction.

As part of the preparation process of background documents for the 14th (Mid-Term) Steering Committee meeting (Trebinje, May 2016), all Working Group members are invited to respond to the online questionnaire:

https://www.surveymonkey.com/r/ECPGR_MoO_PhaseIX

I would very much appreciate if you could reply to the survey within the **end of January 2016**.

This questionnaire is intended to evaluate, based on your experience and judgement, the effectiveness of the ECPGR Mode of Operation towards reaching its long-term goal and objectives.

The items from this questionnaire are based on the reference document: “ECPGR Phase IX (2014-2018) – Goal, Rules of Procedures and Terms of Reference for the operational bodies (Approved by the Steering Committee – Second edition, October 2014)” – [\[link\]](#)

Please note that this survey is anonymous and the results will be included in a report to the ECPGR Steering Committee. This survey will be closed on **31 January 2016**.

Thank you very much for your kind collaboration.

kind regards

Ferdinando Branca

31 December 2015 establishment of the ECPGR Brassica Working Group profile of Facebook (<https://www.facebook.com/groups/994868347244443/?fref=ts>)

A.2.2. Initiate and coordinate the preparation of project ideas and proposal

- The proposal project “INNOVATION FOR EUROPEAN TRADITIONAL VEGETABLE CHAINS (INEUROTRAVEGS)”, including several ECPGR Brassica WG members was presented in the frame of the H2020 SFS7a call but it did not overcome the second phase of selection;
- The proposal project “Conservation of *B. macrocarpa* diversity in genetic reserve of Egadi islands” (BRASSICA GENRES) in the frame of the call LIFE+ 2015 “Nature and Biodiversity” but it was not selected at the end of the second phase of selection;
- The proposal project “(Research to Enhance the Management of Brassica genetic Resource and Human Nutrition” (REMBRANDT) in the frame of the call H2020 SFS7b-2015, Topic Management and Sustainable Use of Genetic Resources, it was approved and selected after second phase but it was the first project not funded;
- The proposal project “BREeding ECO -efficient BRASsica vegetables with enhanced productivity and environmental performance” (BRECO-BRASS) in the frame of the call H2020 SFS03-2016 but it did not overcome the second phase of selection;
- The proposal project “High nutrient and water efficiencies increase Brassica crop productivity in different agroclimatic zones within Europe” (BRASSAGRO) in the frame of the call H2020 SFS-01-2016 but it did not overcome the second phase of selection;
- Other WG members were able to submit as coordinators or as partners several proposal projects, and they take part of several national and international projects.

A.2.3. Coordinate ECPGR-related activities for the crop gene pools

This goal was achieved as required through correspondence

A.2.4. Contribute to the relevant section of the ECPGR annual reports

Contribution were offered as requested

Publication produced by the Beta WG members in 2014/2015 (Peer review Articles):

- Ciancaleoni S., Chiarenza G.L., Raggi L., Branca F., Negri V. (2014). Diversity characterization of broccoli (*Brassica oleracea* L. var. *italica* Plenck) landraces for their on farm (in situ) safeguard and use in breeding programs. *Genetic Resources and Crop Evolution*, 61, 451-464.
- Galletti S., Bagatta M., Branca F., Argento S., De Nicola G.R., Cianchetta S., Iori R., Ninfali P. (2015). *Isatis canescens* is a rich source of glucobrassicin and other health-promoting compounds. *JOURNAL OF THE SCIENCE OF FOOD AND AGRICULTURE*, 98, 158-164
- Maggioni L., Von Bothmer R., Poulsen G., Branca F., Jørgensen R. B. (2014). Genetic diversity and population structure of leafy kale and *Brassica rupestris* Raf. in south Italy. *HEREDITAS*, vol. 151, p. 145-158, ISSN: 0018-0661, doi: 10.1111/hrd2.00058
- Vale A.P., Santos J., Brito N.V., Peixoto V., Carvalho R., Rosa E., Oliveira B. (2015). Light influence in the nutritional composition of *Brassica oleracea* sprouts. *Food Chemistry*, 178: 292–300.
- Vale A.P., Santos J., Brito N.V., Fernandes D., Rosa E., Oliveira MB.P.P. (2015). Evaluating the impact of sprouting conditions on the glucosinolate content of *Brassica oleracea* sprouts. *Phytochemistry*, 115: 252–260.

National activities

- "Exploiting of glucosinolates-myrosinase system to control pathologies of living organism" funded by University of Catania, Italy (Branca F.);
- "Development of vegetable cultivars and hybrids intended for outdoor and indoor production" financed by the Ministry of Education, Science and Technological Development of the Republic of Serbia - Project TR 31030 (Červenski J.);