

***ECPGR***

***On-farm Conservation and Management***

***Working Group:***

***progress made during the first part of Phase IX***

***(2014-2015)***

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## Working Group Members

The Working Group presently consists of the 131 members listed below:

Albania: Mr Fetah Elezi, Armenia: Ms Karine Sarikyan, Austria: Mr Paul Freudenthaler, Azerbaijan: Mr Mirza Musayev, Azerbaijan: Khanbala Rustamov, Belarus: Mr Stanislau Grib, Bosnia and Herzegovina: Ms Marina Antić, Mr Miljan Cvetkovic, Ms Gordana Đurić, Ms Vida Todorović, Mr Besim Salkic, Bulgaria: Ms Tzvetelina Stoilova, Croatia: Mr Josip Leto, Cyprus: Ms Dionysia Fasoula, Czech Republic: Mr Vojtěch Holubec, Mr František Paprštejn, Denmark: Mr Gert Bundgaard Poulsen, Estonia: Ms Annika Michelson, Finland: Ms Maarit Heinonen, Ms Merja Veteläinen, France: Ms Isabelle Goldringer, Georgia: Mr Taiuli Berishvili, Germany: Mr Rudolf Vögel, Ms Sarah Sensen, Mr Udo Hennenkämper, Mr Ullrich Schulze, Greece: Ms Parthenopi Ralli, Hungary: Mr Attila Simon, Ms Zsuzsanna Kollár, Ireland: Mr Tom Curtis, Israel: Yehoshua Anikster, Italy: Ms Valeria Negri (Chair of the WG), Mr Riccardo Bocci, Latvia: Mr Dainis Rungis, Macedonia FYR: Ms Sonja Ivanovska, Moldova: Mr Anatol Ganea, Montenegro: Mr Zoran Jovic, Netherlands: Mr Chris Kik, Norway: Ms Silja Valand, Poland: Ms Zofia Bulińska-Radomska, Ms Marta Olas-Sochacka, Mr Grzegorz Hodun, Mr Marcin Zaczyński, Mr Stanisław Flaga, Mr Jarosław Pajakowski, Portugal: Mr Pedro Manuel Reis Mendes Moreira, Ms Ana Maria Barata, Ms Graça Mendonça Pereira, Ms Filomena Rocha, Mr Benvindo Martins Maçãs, Ms Maria Cristina Duarte, Romania: Ms Silvia Străjeru, Ms Silvia Ambaruş, Russian Federation: Ms Galina Talovina, Serbia: Mr Miodrag Dimitrijevic, Mr Milan Ugrinović, Slovakia: Ms Daniela Benediková, Slovenia: Ms Nataša Ferant, Spain: Mr Juan José Ruiz Martinez, Sweden: Mr Jens Weibull, Matti Leino, Ms Annette Hägnfelt, Mr Kjell-Åke Lundblad, Switzerland: Mr Béla Bartha, Ms Waltraud Kugler, Ms Yvonne Lötscher, Ms Christina Kägi, Mr Christian Eigenmann, Mr Markus Hardegger, Turkey: Mr Abdullah Inal, Ukraine: Ms Valentina Gorina, United Kingdom: Mr Nigel Maxted, Mr Julian Hoskings, Ms Lydia Smith.

## Achievements in the field of on-farm conservation in the period

### Activities carried out in the PGR Secure project frame

Many activities of the WG were carried out within the framework of the EC FP7-funded PGR Secure project ([www.pgrsecure.org](http://www.pgrsecure.org)) which was concluded in August 2014.

- a. Support – The project also provided a helpdesk (online and via direct email/Skype contact) ([www.pgrsecure.org/helpdesk](http://www.pgrsecure.org/helpdesk)) which includes conservation planning aids, data sources, descriptors for information management, as well as useful publications, networks, websites and resources associated with past conferences and workshops.
- b. Development of strategies – At European level the project produced a ‘Generic European LR diversity in situ (on-farm) conservation strategy’ ([http://www.pgrsecure.bham.ac.uk/sites/default/files/documents/deliverables/D4.5\\_European\\_generic\\_LR\\_conservation\\_strategy.pdf](http://www.pgrsecure.bham.ac.uk/sites/default/files/documents/deliverables/D4.5_European_generic_LR_conservation_strategy.pdf)) and a ‘European specific landrace conservation strategy for Avena, Beta, Brassica and Medicago’ ([http://www.pgrsecure.bham.ac.uk/sites/default/files/documents/helpdesk/D4.4\\_European\\_specific\\_LR\\_conservation\\_strategy.pdf](http://www.pgrsecure.bham.ac.uk/sites/default/files/documents/helpdesk/D4.4_European_specific_LR_conservation_strategy.pdf)). PGR Secure has also made significant progress in the development of national on-farm conservation strategies in Finland, Italy and the United Kingdom (<http://www.mtt.fi/mttraportti/pdf/mttraportti163.pdf>; [http://www.pgrsecure.bham.ac.uk/sites/default/files/documents/deliverables/D4.2\\_IT\\_landrace\\_conservation\\_strategy.pdf](http://www.pgrsecure.bham.ac.uk/sites/default/files/documents/deliverables/D4.2_IT_landrace_conservation_strategy.pdf); [http://www.pgrsecure.bham.ac.uk/sites/default/files/documents/deliverables/D4.3\\_UK\\_landrace\\_conservation\\_strategy.pdf](http://www.pgrsecure.bham.ac.uk/sites/default/files/documents/deliverables/D4.3_UK_landrace_conservation_strategy.pdf)). These strategies can serve as useful examples for other countries.
- c. Journal Landraces - Issue 3 was recently published ([http://www.pgrsecure.bham.ac.uk/sites/default/files/documents/newsletters/Landraces\\_Issue\\_3.pdf](http://www.pgrsecure.bham.ac.uk/sites/default/files/documents/newsletters/Landraces_Issue_3.pdf)) which includes contributions from ECPGR WG members. *Landraces* is a medium to publicize different initiatives to protect landraces and to provide information on research activities focused on them.
- d. Final dissemination conference - The conference ‘*ENHANCED GENEPOOL UTILIZATION – Capturing wild relative and landrace diversity for crop improvement*’ was held in Cambridge, United Kingdom, 16–20 June 2014. The conference comprised twelve sessions organized within four themes: 1) characterization techniques, 2) conservation strategies, 3) facilitating LR (and CWR) use, and 4) informatics development. Fifty-nine oral presentations and 56 posters were shared under these themes. The conference was attended by 140 delegates from 42 countries (including the majority of European countries) and many WG members were able to attend and present their research.
- e. Final dissemination conference proceedings - The PGR Secure conference ‘*ENHANCED GENEPOOL UTILIZATION – Capturing wild relative and landrace diversity for crop improvement*’ proceedings containing summaries of the presented papers will be published in the spring of 2016 and made freely available to all conference participants. (Citation: Maxted, N., Dulloo, M.E. and Ford-Lloyd, B.V. (eds.) (2016). *Enhancing Crop GenePool Use: Capturing Wild Relative and Landrace Diversity for Crop Improvement*. CAB International, Wallingford, UK. ISBN-13: 978-1-78064-613-8)

## Support given by the WG to other projects

WG members were asked to give advices and support to the study launched by DG AGRI of the European Commission "Preparatory action on EU plant and animal genetic resources". In this frame the Chair and other WG members (B. Bartha, R. Bocci, S. Bulinska, V. Holubec, N. Maxted, P.M. Mendez Moreira) took part to a meeting in Brussels aimed at discussing strategies for a better integration of *ex situ* and *in situ* approaches towards conservation and sustainable use of genetic resources at national and EU level.

## Projects submitted that considered on-farm issues and involved WG members

H2020 "On-Farm Diversity" (coordinator: N. Maxted, University of Birmingham), not successful.

H2020 "Nutrifood" (coordinator: P. Bilsborrow, University of Newcastle upon Tyne), not successful.

H2020 "Diversifood" (coordinator: V Chable, INRA Rennes), successful.

H2020 "Traditom" (coordinator: Antonio Granell, CSIC, Spain), successful, see <http://traditom.eu/about/associated-partners/>

7FP HealthyMinorCereals, coordinator GB Prague, CZE, the project includes landraces, and CWR \_ Aegilops 2013-2018.

CeLand (V. Holubec, W. Podyma, P. Freudenthaler, V. Meglic, P. Hauptvogel, G. Czismadia) submitted project proposal - Landraces in Central Europe as cultural heritage of the region to INTERREG Central Europe, but the project was unsuccessful

DaLand (V. Holubec, P. Freudenthaler, V. Meglic, P. Hauptvogel, G. Czismadia, S. Strajeru), submitted project - Landraces in Danube region as cultural heritage of the region to INTERREG Danube, project is being evaluated

NatFruit: (V Holubec and A. Asdal) project of Norwegian funds 7F14122: Conservation and breeding potential of native fruits in the Czech Republic and Norway, 2015-2017.

The WG also solicited the ECPGR secretariat in answering the call for tender Preparatory action — EU plant and animal genetic resources in agriculture (deadline for submission: 05/10/2015) as leader of a consortium, but several constrains hampered the possibility of having a positive answer.

## National achievements

### Austria

The planned European Regulation on plant reproductive material was intensively discussed in conjunction with the on-farm conservation. Finally, the proposal was withdrawn by the European Parliament.

For the new support for rural development by the European Agricultural Fund for Rural Development (EAFRD) a new program with different measures were developed. The measure concerning the cultivation of old varieties and underutilized species continued (limited list of varieties or species).

## Bosnia and Herzegovina

In Bosnia and Herzegovina the genetic resources are under the jurisdiction of the Republic of Srpska and the Federation of Bosnia and Herzegovina. The following activities were realized only in the Republic of Srpska. On-farm conservation of vegetables is established in two different regions (Trebinje and Petrovo area). The following species are conserved: *Brassica oleracea* var. *acephala*, *Phaseolus vulgaris*, *Allium cepa*, *Allium sativum*, *Allium porrum*, *Vicia faba*, *Solanum melongena*, *Lycopersicon esculentum*, *Armoracia lapathifolia*, *Capsicum annuum*, *Cucurbita pepo*, *Cucurbita maxima*.

Many other vegetable landrace samples were collected in a different regions by the working group members. Presently, the vegetable collection of the Institut za genetičke resurse consists of 180 accessions of vegetable crops. The Institute collection of autochthonous fruits varieties consist of 88 apple varieties, 86 pear varieties, 14 plum varieties and 6 cherry varieties.

A specific law concerning genetic resources is being drafted and sent in the Parliament of the Republic of Srpska for procedure. The mentioned law is covering and defining on-farm conservation as well.

## Cyprus

In the framework of two relevant National Projects, extensive evaluation of local cowpea and eggplant landraces is being performed. In the framework of the H2020 Project DIVERSIFOOD, additional characterization of legume and cereal germplasm has been initiated.

## Czech Republic

Activities in on-farm conservation are presently carried out: for fruit trees (3 within national parks of Krkonose, Sumava, Bile Karpaty, 1 in NGO Orlicke Mts) and for herbaceous landraces ( 1 in Private BG Arboretum Paseka).

## Estonia

A new phase of the National Programme “Collection and Conservation of Plant Genetic Resources for Food and Agriculture in 2014-2020” has been approved. Subsidizes are allocated from the Estonian Rural Development Plan (2014-2020) for cultivation local plant varieties, including fruit trees and berries. We have started to implement the new national PGR programme by extending the list of local plant varieties subsidized, field crop varieties have been increased from 1 to 5. Fruit and berries from 0 to 55.

Estonia has listed landraces and local varieties as conservation varieties to enhance cultivation and marketing. Estonian National Committee on Plant Genetic Resources meets regularly (twice a year). Estonian Council of Environmental NGOs is represented in the Committee by NGO Maadjas - native plants and animals.

## Germany

### *Attended workshops:*

Participation in the ECPGR Doc & Info WG in Prague 2014 and contribution to discussions to include on farm information into EURISCO with the oral presentation “Linking ex situ, on-farm and in situ documentation in EURISCO – a case from Germany”. Considering that no consensus was reached on including on-farm information in EURISCO, since there was no agreement on what type of information should be included and for what purpose, it was recommended to continue the discussions and the collaboration with the On-farm Conservation and Management WG.

*National projects, funded by the Federal Office for Agriculture and Food:*

10OE082: Population breeding for adaptability through diversity and participatory on-farm selection of winter wheat (2011/07-2014/02).

10OE081: Sustainable improvement on the availability of organic vegetable seeds by on-farm field trials and on-farm conservation. (2011/05-2014/05).

10BM031: On-farm preservation of old vegetables by establishing a network (2012/12-2016/11).

10BM010: Erhaltung Conservation of genetic resources of *Vitis vinifera* L. by innovative sustainable use of historical varieties in the vineyards of Saxony and Saale-Unstrut (2012/07-2015/06).

11HS019: Enhancement of the „red list of endangered native crops” in the field of vegetable crops.

*National framework for the promotion of on farm conservation:*

Inclusion of a funding measure for plant genetic resources within the Joint Federal Government and Länder Programme for "Improving Agrarian Structures and Coastal Protection" 2014 (Development and commercialization of farmers' varieties/landraces, underutilized species).

Competence centres in some Federal Länder for supporting on farm conservation of genetic resources.

## Greece

The Agricultural University of Athens team organizes collecting missions mainly in isolated areas in islands or mainland Greece aiming to obtain a full record on the past and present status of landraces. This effort is not limited only to seed collection but also to the awareness of the farmers and local communities with regard to conservation of these valuable genetic resources. In many cases Agricultural University of Athens helps with the reintroduction and repatriation of these landraces from genebanks. Agricultural University of Athens works closely with the local communities. In the frame of project "Collection and recording of local varieties in the prefecture of Messinia" funded by Captain Vassilis Foundation Agricultural University of Athens visited 110 villages collecting 260 samples (cereals, pulses and vegetables). The research began in mid-2013 and was completed in early 2014. In the frame of the project LIFE - investigation services of best agricultural crops and practices of the program and in particular, the recording and collection of Andros island landraces, funded by the Municipality of Andros, Agricultural University of Athens visited 74 villages and completed 89 interviews and collected 332 samples mainly vegetables and pulses. The research was carried out from October 2013 till March 2014. Currently Agricultural University of Athens carries out collecting expeditions in Andania (Messinia prefecture) (funded by Captain Vassilis Foundation) and on-farm conservation research in the island of Skyros funded by Municipality of Skyros Island within the frame of the program "Description and rescue of Skyrian origin landraces under LIFE09NAT / GR / 000323. Agricultural University of Athens also carries a collecting expedition to monitor the on-farm conservation during the recent years. A first collecting expedition was carried out in 2012. Records included also information for perennial agricultural species (fruit trees, olive tree and grapevines). These records were used for further investigation by fruit trees and grapevine specialists in the Island of Skyros thus contributing to an inventory of nearly all the existing landraces' diversity of the specific island.

Agricultural University of Athens results were used also for the enrichment of the landraces' list of an action of the Ministry of Agriculture for the conservation of landraces under genetic erosion. Last year the Agricultural University of Athens with the local communities submitted one cowpea and two wheat landraces for registration in the national catalogue in compliance with Directive 2008/62/EC of the 20th of June 2008 (L 162). Finally, a 3rd Interdisciplinary Scientific Meeting was organized in Athens (6/2/2015) on vegetables, fruit trees and grapevines landraces (history, folklore, diversity, conservation, legislation, promotion, commercial exploitation) ([http://www.minagric.gr/gpa/gpa\\_third/third\\_meet.htm](http://www.minagric.gr/gpa/gpa_third/third_meet.htm)).

In the frame of the project "Exploration of cultivated species gene pool for the advancement and improvement of important European crops agronomical characteristics" (coordinators P. Ralli from Greece and P. Hauptvogel from Slovakia) collecting expeditions took place in both countries. It was a Bilateral Scientific & Technological Cooperation project between Greece (Hellenic Agricultural Organization–DEMETER, Institute of Breeding and Plant Genetic Resources) and Slovakia (Plant Production Research

Center Piešťany) funded by national and EU resources. The project started in 2013 and ended in 2015. The aim of the project was to enhance the ex situ collections of both countries with new accessions of landraces and crop wild relatives with special emphasis to the wheat gene pool, as well as to promote knowledge on specific traits of this germplasm, in order to detect potentially exploitable genetic resources in breeding strategies for adaptation to climate changes. Another objective of the project was the establishment of cooperation between the two countries for the conservation of plant genetic resources in situ and ex situ and the exploration of small-scale applications for in situ and On-farm conservation, the implementation of the appropriate methodology for the monitoring of demographic parameters of some target-species of high priority and the development of an effective framework for sustainable protection. Also in the frame of the project "Enriching genebanks holding with novel diversity from unexplored islands and inland areas of Greece – Filling gaps and securing climate change adapted germplasm" collecting expeditions took place all over Greece. There were jointed expeditions with the participation of the Greek Genebank (Hellenic Agricultural Organization–DEMETER, Institute of Breeding and Plant Genetic Resources), ICARDA and the Genebank of New Zealand (AgResearch, Margot Forde Forage Germplasm Centre). The project was funded by the Global Crop Diversity Trust. It started in 2013 and ended in 2014. The aim of the project was the exploration of unexplored islands and inland areas of Greece for the collection of landraces and crop wild relatives. The genetic material was evaluated and is conserved ex situ in the genebanks.

(Communicated by Penelope J. Bebeli, Laboratory of Plant Breeding and Biometry, Department of Crop Science, Agricultural University of Athens and Parthenopi Ralli, Institute of Breeding and Plant Genetic Resources, Hellenic Agricultural Organization-DEMETER).

#### Macedonia

In the frame of the project "Ecological GAP analysis and ecological sensitivity map for Bregalnica river basin" (a region comprising almost 1/4 of the Macedonian territory), that was financed by the Swiss Agency for Development and Cooperation in 2014-2015, prof. S. Ivanovska and colleagues (Faculty of Agricultural Sciences and Food of Ss Cyril and Methodius University, Skopje) visited 148 villages, were able to assess that many landraces are still maintained on-farm and to collect their seeds. Many other landrace samples were collected by the Faculty students in a different region in 2014-15. Presently, the Faculty landrace collection totals 5523 accessions of 66 agricultural crops coming from 429 villages of 69 municipalities.

#### Italy

Regional activities in protecting and promoting landrace cultivation on-farm progressed during the period following the Regulations set by each Region. A specific law concerning genetic resources is presently being discussed in the Parliament.

#### Portugal

The National Genebank (BPGV) continues to support and promote on-farm conservation activities. Between 2014 and 2015 the BPGV visited 3 different regions of Portugal (Guarda, Castelo Branco and Viseu). In these Regions, the BPGV staff identified 97 old farmers that continue to maintain on-farm several landraces and fruit trees, because their culinary qualities (cereals, pulses, grain legumes) and flavours (fruits) are much appreciated. In some areas, traditional agricultural practices concerning crop selection, planting, harvesting and storage as well as processing and utilization are still used.

Besides continuing to support *in situ* (on-farm) conservation, complementary *ex situ* conservation are taken to assure plant genetic resources conservation.

Finally, in 2015 it was published the National Programme for the Conservation and Sustainable Use of Plant Genetic Resources of Agricultural and Horticultural Crops. Available in: <http://www.inia.pt/gca/?id=1600>.



## Romania

Since 2009, the Genebank in Suceava continues to support and promote in situ (on-farm) conservation and utilization activities. This is done by providing small quantities of seeds belonging to the main crops, especially grain legumes and vegetables, to Romanian growers who, based on an agreement, take the responsibility to spread and keep in cultivation in their fields or gardens the landraces coming from Genebank's collections. Apart of this, the Genebank's experts offer, by free, assistance as regards agricultural techniques, harvesting, cleaning, drying, packing and storing the seeds until the next cultivation season.

## 2014-15 Publications of the WG members

ASLAN S, FORSBERG NEG, HAGENBLAD J, LEINO MW 2015 - Molecular genotyping of historical barley landraces reveals novel candidate regions for local adaption. *Crop Science* 55: 2766-2776.

BARATA AM, REIS A, ROCHA F, LOPES VR, GASPAR C, VAZ MC 2014 - Plant genetic resources conservation in portugal - the value of agro-diversity conservation. ICEB 2014 VI Congreso Internacional de Etnobotánica/ VI th International Congress of Ethnobotany, Córdoba, Espanha, S11 - O4, pp. 521–522.

BARATA AM, REIS A, ROCHA F, LOPES VR, GASPAR C, BETTENCOURT E, CARVALHO AM 2014 - Traditional varieties and associated products – conserve to valorise. ICEB 2014 VI Congreso Internacional de Etnobotánica/ VI th International Congress of Ethnobotany, Córdoba, Espanha, S11 - O5, pp. 523-524.

BARATA AM, ROCHA F, OLIVEIRA J, LIMA JM, NOBREGA H, PINHEIRO DE CARVALHO MAA, DIAS S 2014 - Implementation of a PGR Global Documentation System in Portugal. International Conference on Enhanced Genepool Utilization - Capturing wild relative and landrace diversity for crop improvement, Cambridge, United Kingdom, Part 1, Oral presentation, pp. 73-74, ISBN: 978929043995-0.

BARATA AM, ROCHA F, LOPES VR, MAIA DE SOUSA R, EIRAS DIAS E, MAÇÃS B 2014 - National programme for plant genetic resources – a platform of cooperation in Portugal. International Conference on Enhanced Genepool Utilization - Capturing wild relative and landrace diversity for crop improvement, Cambridge, United Kingdom, Part 2, Poster presentation, pp. 120-121, , ISBN: 978929043995-0.

BARBILLON P, THOMAS M, GOLDRINGER I, HOSPITAL F, ROBIN S 2015 - Network impact on persistence in a finite population dynamic diffusion model: application to an emergent seed exchange network. *J Theor Biol*, 365 365-76.

CIANCALEONI S, CHIARENZA GL, RAGGI L, BRANCA F, NEGRI V 2014 - Diversity characterisation of broccoli landraces for their on-farm (in situ) safeguard and use in breeding programs. *Genetic Resources and Crop Evolution*, 61: 451-464 DOI: 10.1007/s10722-013-0049-.

CIANCALEONI S, RAGGI L, NEGRI V 2014 Genetic outcomes from a farmer assisted landrace selection program to develop a synthetic variety of broccoli. *Plant Genetic Resources Characterization and Utilization*, 1-4, DOI:10.1017/S1479262113000592.

FORSBERG NEG, RUSSELL J, MACAULAY M, LEINO MW, HAGENBLAD J 2015 - Farmers without borders - genetic structuring in century old barley (*Hordeum vulgare*). *Heredity* 114: 195 - 206.

GANOPOULOS I, XANTHOPOULOU A, MASTROGIANNI A, DROUZAS A, KALIVAS A, BLETOS F, KROMMYDAS K, RALLI P, TSAFTARIS A, MADEISIS P 2015 - High Resolution Melting (HRM) analysis in eggplant (*Solanum melongena* L.): a tool for microsatellite genotyping and molecular characterization of a Greek Genebank collection. *Biochemical Systematics and Ecology* 58, pp. 64-71.

GARCÍA-MARTÍNEZ S, GRAU A, ALONSO A., RUBIO F, CARBONELL P, RUIZ JJ 2015 - UMH 916, UMH 972, UMH 1093, UMH 1127 and UMH 1139: four fresh-market breeding lines resistant to viruses within the Muchamiel tomato type. *HortScience* 50(6):927-929.

GERMAN ADVISORY BOARD FOR PLANT GENETIC RESOURCES (BEKO) 2013 - Current recommendations of BEKO for On-farm-Management in Germany, Bonn.

HERMUTH J, HOLUBEC V 2015 - Old traditional cereal crop varieties and their value for nutrition. In: Zedek V., Jandová R a Holubec V. *Plant genetic resources and healthy diet*. MZe Praha p. 14-17. ISBN 978-80-7434-248-6.

HOLUBEC V 2015 - The value of landraces for breeding and healthy life style. Need for their conservation. Collections in the Czech Republic. In: Zedek V., Jandová R, Holubec V. *Plant genetic resources and healthy diet*. MZe Praha pp. 10-13. ISBN 978-80-7434-248-6.

HOLUBEC V, PAPRŠTEIN F, DOKOUPIL L, POSOLDA M, ŘEZNÍČEK V 2015 - Monitoring of fruit landraces in Czech Republic, tracing their origin with a special attention to Russian origin and potential for their conservation. *Tr. Prikl Bot. Gen. Sel. Rast.* 176/3: 336-345. ISSN: 0202-3628.

IVANOVSKA S, JANKULOVSKA M, AJRULI G, POPSIMONOVA G, KRATOVALIEVA S, AGIC R 2013 - Genetic variability of some morphological and productive traits of local bean populations (*Phaseolus vulgaris* L.). *Proceedings of International Symposium for agriculture and food, Faculty of Agricultural Sciences and Food, Skopje*, 608-613.

KARLSSON STRESE E-M, LUNDSTRÖM M, HAGENBLAD J, LEINO MW 2014 - Genetic diversity in remnant Swedish hop (*Humulus lupulus* L.) yards from the 15th to 18th century. *Economic Botany* 68: 231-245.

KRATOVALIEVA S, POPSIMONOVA G, IVANOVSKA S, JANKULOSKI LJ, MEGLIČ V. 2013 - Macedonian Genebank: Seed Protein Content in Wild Meadow Fescue (*Festuca pratensis* Huds.) Accessions. *Agriculturae Conspectus Scientificus* . 78(1):31-34.

KYRIAKOPOULOU OG, ARENS P, PELGROM KTB, KARAPANOS I, BEBELI PJ, PASSAM HC 2014 - Genetic and morphological diversity of okra (*Abelmoschus esculentus* [L.] Moench.) genotypes and their possible relationships, with particular reference to Greek landraces *Scientia Horticulturae*171, pp. 58-70.

LOPES VR, BARATA AM, REIS A, ROCHA F, BETTENCOURT E 2015 - Molecular techniques: a tool in the definition of a region of quality products plant proteins for the future. *Eucarpia International Symposium on Protein Crops, Book of Abstracts, poster 36, p. 138, Pontvedra, Spain*.

MAGGIONI L, NORIEGA IL, LAPENA I, HOLUBEC V and ENGELS JMM 2015 - Collecting plant genetic resources in Europe: A survey of legal requirements and practical experiences. In: Coolsaet B. et al. Implementing Nagoya protocol. Brill Nijhoff, Leiden, pp. 327-362.

MARAS M, PIPAN B, ŠUŠTAR-VOZLIČ J, TODORVIĆ V, ĐURIĆ G, VASIĆ M, KRATOVALIEVA S, IBUSOSKA A, AGIČ R., MATOTAN Z, ČUPIĆ T, MEGLIČ V 2015 - Examination of genetic diversity of common bean from Western Balkans. J. AMER. SOC. HORT. SCI. 140(4):308–316.

MARTÍNEZ-CARRASCO L, BRUGAROLAS M, MARTÍNEZ A, GARCÍA S, RUIZ JJ 2015 - Aceptación de variedades tradicionales de tomate en mercados locales. Un estudio de valoración contingente. ITEA 111 (1):56-72.

MARTÍNEZ-CARRASCO L, BRUGAROLAS M, MARTÍNEZ POVEDA A, ROS MM, RUIZ MARTÍNEZ JJ 2014 - Factores determinantes del precio de los tomates de variedades tradicionales: un análisis de precios hedónicos. Economía Agraria y Recursos Naturales 14(2)

MAXTED N, KELL S, MAGOS BREHM J 2014 - National Level Conservation and Use of Landraces Draft Technical Guidelines. Food and Agriculture Organization of the United Nations, Rome, Italy. 14 pp. <http://www.fao.org/3/a-mm564e.pdf>.

MAXTED N, KELL S, MAGOS BREHM J 2014 - Global Networking on *in situ* Conservation and on-farm Management of Plant Genetic Resources for Food and Agriculture. Food and Agriculture Organization of the United Nations, Rome, Italy. 14 pp. <http://www.fao.org/3/a-mm537e.pdf>.

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NINO E, MYLONAS I, TSIVELIKAS A, RALLI P, DORDAS C, TOKATLIDIS I 2014 - Wheat landraces are better qualified as potential gene pools at ultraspaced rather than densely grown conditions. The Scientific World Journal, Volume 2014, Article ID 957472, p.5

OLIVEIRA HR, HAGENBLAD J, LEINO MW, LEIGH FJ, LISTER DL, PEÑA-CHOCARRO L, JONES MK. 2014 - Wheat in the Mediterranean revisited: tetraploid wheat landraces assessed with elite bread wheat single-nucleotide polymorphism markers. BMC Genetics 15:54.

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## Fulfillment of the ECPGR Phase IX modus operandi requests

### Development of a Workplan for each new Phase in line with the ECPGR objectives for the respective theme, in consultation with WG experts: 'On-farm conservation and management of landraces' concept development

2014

Following the recommendations made by the Thirteenth meeting of the Steering Committee in Vienna (December 2012), a Task Force for "On-farm management and conservation of landraces" (including V. Negri, P. Freudenthaler, F. Gasi, I. Goldringer, P. Mendes Moreira, S. Străjeru, A. Tan, M. Veteläinen, R. Voegel, J. Weibull and N. Maxted) was established to develop an agreed concept at ECPGR level on On-farm management and conservation of landraces. As the fruit of a collaborative effort of several months, the tasks force produced a "ECPGR Concept for on-farm conservation and management of PGRFA diversity in Europe" (see: <http://www.pgrsecure.org/>, Landrace helpdesk) that was submitted on May 19<sup>th</sup>, 2014. However the document was not endorsed by the Steering Committee.

2015

A revised draft of the "ECPGR Concept for on-farm conservation and management of PGRFA diversity in Europe" was submitted to the ECPGR Executive Committee on September 30<sup>th</sup>, 2015 which followed the outline suggested in the Maccares meeting of 10-11 March 2015.

The authors (V. Negri, B. Bartha, P. Freudenthaler, F. Gasi, P. Mendes Moreira, S. Străjeru, M. Veteläinen, R. Voegel, J. Weibull and N. Maxted), considering that key constraints to an integrated and cooperative European approach to on-farm conservation and management include lack of information on:

- the materials that are presently cultivated and/or can be in on farm conservation, and
- the location of areas of highest interest for the conservation of useful agro-biodiversity,

proposed

1. The compilation of a European inventory of materials that are maintained on-farm, followed by identification of potential hot spots for agro-biodiversity conservation, and finally, over the long run, the building of a European network of unique materials and sites for a coordinated and integrated in situ (on-farm) conservation,

2) The development of indicators for monitoring diversity and threats,

3) The production of an action plan for on-farm conservation and management,

as actions as of primary importance in promoting an integrated community led diversity on-farm management system and described how they could be organised.

However, the ExCo did not consider the paper suitable for approval as such, owing to its length and structure, (which indeed reflects the complex situation in which on-farm activities are embedded) and asked the Secretariat to develop a more concise document from the received paper. The Task force has already offered its support in developing such a summary.

## **Provide information to the WG members on ECPGR events and mode of operation on a need or request basis.**

Contributions were given through private correspondence when requested.

## **Provide advice to other WGs**

There was no invitation to advice from other WGs.

## **Orchestrate the know-how available in the respective pool of expert to resolve specific technical issues that might evolve as part of the operation of the WG**

The EC FP7-funded PGR Secure project ([www.pgrsecure.org](http://www.pgrsecure.org)) was able to assist members of the WG from various countries to develop national conservation strategies through the means mentioned above (i.e. LR helpdesk content). In addition, the chair addressed WG members asking specific questions to experts with specific competences. Most of the received requests came from Greece (prof. P.J. Bebeli, Agricultural University of Athens) and concerned procedures to be set at National level for registering conservation varieties.

## **Initiate and coordinate the preparation of project ideas and proposals**

Of course the stand-by situation caused by the lack of endorsement of the 'On farm conservation and management' concepts presented hampered the WG chair and its members to prepare project ideas and proposals for funding from the competitive ECPGR funding scheme.

However, WG members were able to submit as coordinator or take part to several international projects (see above).

Finally, the preparation of proposals to be submitted to the next H2020 calls has been started.

## **Coordinate ECPGR related activities that fall under the responsibility of the respective WG**

This goal was achieved as required through private correspondence.

**Contribute to the relevant sections of the ECPGR annual reports and reports to the Steering Committee when prompted by the Secretariat, providing accounts on progress made, including an assessment of what has and has not been achieved, identifying the constraints in reaching the planned objectives.**

Contributions were made as requested.