The In situ Working Group consisted of 83 members: Nigel Maxted, (United Kingdom – WG Chair); Alban Ibraliiu (Albania), Almina Avagyan (Armenia), Paul Freudenthaler (Austria), Sylvia Vogl (Austria), Afig Mammadov (Azerbaijan), Aydin Asgarov (Azerbaijan), Safiya Dzmitryieva (Belarus), Sergey Savchuk (Belarus), Stanislau Grib (Belarus), Marina Antić (Bosnia and Herzegovina), Sead Vojnikovic (Bosnia and Herzegovina), Radoslav Gašić (Bosnia and Herzegovina), Željka Stojičić (Bosnia and Herzegovina), Nada Šumatić (Bosnia and Herzegovina), Sladana Petronić (Bosnia and Herzegovina), Danijela Petrović (Bosnia and Herzegovina), Katya Uzundjalieva (Bulgaria), Tatjana Klepo (Croatia), Barbara Sladonja (Croatia), Frane Strikić (Croatia), Angelos Kyratzis (Cyprus), Vojtěch Holubec (Czech Republic), Tomáš Vymyslický (Czech Republic), Lars Henrik Jacobsen (Denmark), Rene Aavola (Estonia), Helena Korpelainen (Finland), Heli Fitzgerald (Finland), Tamar Jinjikhadze (Georgia), Lothar Frese (Germany), Sarah Sensen (Germany), Rudolf Vögel (Germany), Matthias Ziegler (Germany), Parthenopi Ralli (Greece), Ottó Szalkovszki (Hungary), Erzsébet Peti (Hungary), Tom Curtis (Ireland), Alon Singer (Israel), Valeria Negri (Italy), Pietro Fusani (Italy), Giovanni G. Vendramin (Italy), Agnese Gailite (Latvia), Juozas Labokas (Lithuania), Birutė Karpavičienė (Lithuania), Stefan Lazu (Moldova), Danijela Stesevic (Montenegro), Rob van Treuren (Netherlands), Denise Fu Dostatny (Poland), Waldemar Buchwald (Poland), Anna Forycka (Poland), Marcin Zacyjński (Poland), Miguel Angelo Carvalho (Portugal), Joana Magos Brehm (Portugal), Humberto Nóbrega (Portugal), Benvindo Martins Maçãs (Portugal), Susana Maria Fontina (Portugal), David Horta Lopes (Portugal), Marius Dan Şandru (Romania), Mihail Coman (Romania), Crăișor Mazilu (Romania), Silvia Străjeru (Romania), Tamara Smekalova (Russian Federation), Sofija Petrovic (Serbia), Sreten Terzić (Serbia), Pavol Hauptvogel (Slovakia), Andreja Čerenak (Slovenia), Daninka Koron (Slovenia), José Maria Iriondo Alegría (Spain), Arnaldo Santos Guerra (Spain), Mora Aronsson (Sweden), Anna Palmé (Sweden), Kjell-Åke Lundblad (Sweden), Jens Weibull (Sweden), Sibyl Rometsch (Switzerland), Yvonne Lötcher (Switzerland), Christian Eigenmann (Switzerland), Christina Kägi (Switzerland), Markus Hardegger (Switzerland), Abdullah Inal (Turkey), Necla Tas (Turkey), Roman L. Boguslavskiy (Ukraine), Nigel Maxted (United Kingdom), Julian Hoskins (United Kingdom), Shelagh Kell (United Kingdom).

1. Achievements in the field of In Situ or CWR conservation in the period 2014–2015.
   a. PGR Secure support – Activities of the Network were carried out within the framework of the EC FP7-funded PGR Secure project (www.pgrsecure.org) which concluded in August 2014. The project has made significant progress in the development of national crop wild relative (CWR) conservation strategies in Albania, Cyprus, the Czech Republic, Finland, Italy, Norway, Spain and the United Kingdom. CWR conservation strategy development is also underway in Belarus, Bulgaria, Greece and Turkey as a direct result of training and technical support provided by the PGR Secure project. Independently, Sweden has taken concrete steps in preparing a national conservation strategy for CWR following the training provided in the joint PGR Secure/ECPGR workshop in 2011 (www.pgrsecure.bham.ac.uk/palanga_workshop). The PGR Secure project provided a helpdesk (online and via direct email/Skype contact) (www.pgrsecure.org/helpdesk) and a specific PGR Secure website for Spanish CWR as created (http://pgrsecurespain.weebly.com/index.html). The content of the PGR Secure helpdesk web pages include conservation planning aids, data sources, Red List information, descriptors for information management, as well as useful publications, networks, websites and resources associated with past conferences and workshops. The project also provided one-to-one technical assistance through in-country visits to Albania, Bulgaria, Cyprus, Czech Rep., Finland, Italy, Portugal, Norway, Spain and United Kingdom and the provision of researcher support to In Situ WG members.
b. **European CWR conservation review** – A review of progress in national CWR conservation in each European country was made available online: (www.pgrsecure.bham.ac.uk/sites/default/files/documents/helpdesk/Progress_national_CWR_and_LR_conservation_Europe.pdf). The review was originally based on results of a horizon scanning exercise initiated at the Symposium ‘Towards the establishment of genetic reserves for crop wild relatives and landraces in Europe’ in September 2010 (see http://www3.uma.pt/isoplexis/aegro.ecpgr.symp/) and is updated on a regular basis following communications with national programmes.

c. **Journal Crop wild relative** – Issue 10 was published in February 2015 with PGR Secure project funding (www.pgrsecure.bham.ac.uk/sites/default/files/documents/newsletters/CWR_Issue_10.pdf) and includes contributions from many ECPGR WG members. *Crop wild relative* serves to highlight the importance of CWR as critical resources for the improvement of crops. It provides a medium to publicize information about the conservation and use of CWR, including updates on CWR conservation project activities, national CWR conservation strategies, and the use of CWR in crop improvement.

d. **PGR Secure 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 CWR and LR use, and 4) informatics development. Fifty-nine oral presentations and 56 posters were shared under these themes. The conference was attended by 140 delegates (Figure 1) from 42 countries (including the majority of European countries) and many In Situ WG members were able to attend and present their CWR research.

Figure 1. The 140 delegates of the ‘Enhanced Genepool Utilization’ international conference outside Churchill college, Cambridge (Photo: Nora Capozio, Bioversity International).

e. **Nordic CWR project** – The Nordic CWR project started in 2015. Led by NordGen, with partners from five Nordic countries (Denmark, Finland, Iceland, Norway and Sweden) the project received funding from the Nordic Council of ministers for a two year project: ‘Ecosystem services: Genetic resources and crop wild relatives’. The project will work on the Nordic level to strengthen the efforts on conservation and use of crop wild relatives. The aim is to establish a
Nordic network for genetic resources that provide provisioning ecosystem services and policy inputs; to obtain Nordic synergy on CWR conservation with a focus on in situ conservation and to promote interactions between in situ and ex situ conservation of crop wild relatives. Three in-depth studies will be conducted within the project. The focus of the in-depth studies will be on coordination of CWR conservation in the Nordic countries and development of a common Nordic conservation action plan. The project has held two meetings/workshops during 2015, (i) In situ / CWR seminar in Østre Bolærne, Norway, 26-28 May 2015, and (ii) Plant genetic resources for food security and ecosystem services - workshop, Stockholm, Sweden, 18-19 November 2015.

f. **Bulgarian CWR Project** – Assoc. Prof. Katya Uzundzhalieva reports on the ‘Crop Wild Relatives - inventorization and gathering information for distribution, conservation and use with the view of future politics’ Project, financed by the Ministry of Environment. The main goal of the project was to establish a basis for the development of a Bulgarian National Strategy for CWR conservation. Under that project several expeditions were made to survey and collect CWR in nature as well as developing a priority checklist and inventory, with ancilliary data held in the database Bulgarian CWR.

g. **PGR Secure 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.

   - See list of contents in Annex 1.

h. **Publications** – produced by In Situ WG members in 2014/15 include:

   - **Books**

   - **Peer Reviewed Articles**


**Chapters in Edited Books**


Official Report


i. CWR Red Listing –

- IUCN Red Listing assessment of European CWR taxa.
- Conversion of regional to global IUCN Red Listing assessment of European CWR taxa.
- Review of IUCN Red Listing assessments for Avena spp., Cinnamomum spp. Lamprachaeinum spp., Coffea spp., Dioscorea spp., Costus spp., etc.
- Participation in the development of climate change modelling procedures being produced by the IUCN SSC Climate Change Specialist Group and contributing with regard to CWR (and LR) to the Best Practice Guideline “Responding to Climate Change” produced by the IUCN World Commission on Protected Areas (WCPA).
- Shelagh Kell was designated by the IUCN Species Programme as the CWR Red List Authority Coordinator (the authority being the CWRSG).

h. Prioritised inventories


2. Develop a Workplan for each new Phase in line with the ECPGR objectives for the respective theme, in consultation with WG experts.

a. In Situ Task Force – As reported in the last In Situ WG report, the ECPGR Secretariat established a Task Force composed of A. Avagyan, L. Frese, J.M. Iriondo, J. Magos Brehm, A. Singer, S.P. Kell
and led by N. Maxted to debate and propose a concept for in situ conservation of CWR in Europe which would act as a guide for EU and national policy development and to act as a blueprint to drive concerted actions throughout the region. The first draft was submitted to the ECPGR Chair in 2013 and following feedback a final document was prepared (Maxted et al., 2015 – http://www.ecpgr.cgiar.org/fileadmin/templates/ecpgr.org/upload/WG_UPLODES_PHASE_IX/WILD_SPECIES/Concept_for_in_situ_conservation_of_CWR_in_Europe.pdf). The final concept was endorsed by the ECPGR Steering Committee in March 2015. The concept is drawn from a comprehensive background document (www.pgrsecure.org/documents/Background_document.pdf) which details the imperative for CWR conservation in Europe, the national, regional and integrated approaches to their conservation, and the requirement for a new policy paradigm to secure their genetic diversity. The document also addresses a number of back-stopping elements, including a) methods of diversity and gap analysis to identify priority populations for conservation action; b) population management inside and outside protected areas; c) a proposal for integrating in situ and ex situ conservation and the sustainable use of CWR genetic diversity within the ECPGR; d) options to promote integration between PGRFA and nature conservation communities; and e) options to promote awareness of the value of CWR diversity and for raising funding for their conservation in Europe.

b. **Strategy for European CWR Conservation** – Allied to the concept a regional inventory of priority CWR taxa and populations requiring active conservation will become part of the strategy for the conservation of Europe’s CWR diversity. Initial results highlight some 200 species that are an immediate priority for conservation planning based on a) their relationship to crops of high economic and food security importance in Europe, and b) their relative threat status (Kell et al., in prep.). The responsibility for conserving these priority species is Europe-wide with some 30 countries containing native, wild populations of 20 or more species. Initial results of gap analyses reveal that only around half of these priority species occur within protected areas, and alarmingly that less than half are represented in gene bank collections. Further, approximately half of the species found in gene bank collections are represented by only eight accessions or less. The full European strategy document will be published online and results used to inform the development and implementation of an integrated CWR conservation strategy for Europe.

3. Provide information to the WG members on ECPGR events and mode of operation on a need or request basis.
   This obligation was met as opportunities arose and all original WG members were involved in the Palanga workshop in 2011 where access to expertise was reviewed.

4. Provide advice to other WGs upon request or on a need basis on technical WG related aspects that are also of interest or importance to other WGs.
   The coordinator was invited to provide advice to the Beta, Forage and Medicinal Plant WG and joined them in applications for funding. The Beta and Forage applications were successful in 2015 and Nigel Maxted attended the Beta (with Jose Iriondo) and Forage project meetings and provided advice on in situ CWR conservation.

5. Orchestrate the knowhow available in the respective pool of experts 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) was able to assist several members of the WG from various countries develop national conservation strategies as discussed above. This has been extended by the successful application for ECPGR funding “Promoting implementation of national and regional crop wild relative (CWR) conservation strategies through sharing of
knowledge and experience to create an integrated European strategy for CWR conservation” led by Juozas Labokas and Nigel Maxted which will hold a workshop in Vilnius in September 2016.

6. Initiate and coordinate the preparation of project ideas and proposals for funding from the competitive ECPGR funding scheme and/or from other sources. The WG Chair will also be responsible for the timely submission of the proposals to ExCo.

- Juozas Labokas and Nigel Maxted submitted an application to the competitive ECPGR funding scheme in 2015 and were successful. The project will lead to a selected In Situ Group meeting in Vilnius, Lithuania in September 2016 to move forward in situ CWR conservation in Europe.

- Parthenopi Ralli and Pavol Hauptvogel submitted and implemented a project entitled “Exploration of cultivated species gene pool for the advancement and improvement of important European crops agronomical characteristics”. 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 established 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.

- Lothar Frese, Nikolai Friesen and Matthias Zander submitted the project proposal “Genetic reserves for wild celery species (Apium and Helosciadium) as component of a network of genetic reserves in Germany (GE-Sell)”. The Federal Office for Agriculture and Food (BLE) funded the 4-years-project. It aims at the establishment of 45 species-specific genetic reserves.

- DG AGRI of the European Commission funded the “Preparatory action on EU plant and animal genetic resources” which was coordinated by consultants with the help of experts. The project started in July 2014 and aimed to create an overview of actors, networks, activities and issues regarding conservation and sustainable use of GR in Europe. A total of seven workshops are planned during the period June 2015 – March 2016. Each workshop is dedicated to specific topics/issues linked to a specific regional context and/or covering sectorial or methodological issues in the field of genetic resources. The outcomes of the workshops should provide recommendations concerning approaches and solutions applicable for the conservation and sustainable use of GR, reflecting the objectives and themes of the preparatory action. The first workshop in June 2015 in Brussels addressing “Better integration of ex situ and in situ approaches towards conservation and use of GR at national and EU level: from complementarity to synergy” and another recent workshop in December 2015 in Barcelona addressed “The impact of climate change on the conservation and utilisation of crop wild relatives in Europe”. The project will culminate in a large conference in Brussels in 2016. More information on the objectives of the study can be found on the study website: http://www.geneticresources.eu.

- Bioversity, Nigel Maxted and In Situ Group members submitted an application for H2020 funding SFS7B AgriDiverse, but the project was unsuccessful.

- CGN submitted an application (including Nigel Maxted) for H2020 funding SFS7B PGR Gold, but the project was unsuccessful.

7. Coordinate ECPGR related activities that fall under the responsibility of the respective WG. This goal was achieved as required.
8. 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.

9. National achievements

**Czech Republic and Norway:**
- Vojtech Holubec (CZE) Mortem Rasmussen (NOR) and colleagues report a new project NATFRUIT (2015-2017) focusing on the Conservation and breeding potential of native fruits in the Czech Republic and Norway. There are some similarities in flora in CZE Krkonose Mts which is regarded as an island of Nordic flora with an occurrence of glacial relics of small fruits *Rubus chamaemorus* and *Empetrum nigrum, E. hermaphroditum. Sorbus sudetica, Rubus chamaemorus* and *Ribes petraeum* belong to the critically endangered species in Czech flora. The project has identified over 400 Czech and Norway wild populations of *Rubus chamaemorus, Ribes petraeum, Rubus idaeus*, plus Krkonose endemic *Sorbus sudetica* and sampled for DNA analysis, in vitro propagation and phenotyping. The samples will be compared with analogic materials from Norway to assess their divergence following postglacial separation. The needs for conservation actions in situ and ex situ will be assessed.

**Italy:**

**Germany:**
- Establishment of a Genebank for Crop Wild Relatives in Germany. On a nationwide basis, the collection of seeds from indigenous wild species with a use value for humans is coordinated by four botanical gardens. Approximately 170 wild species from four larger regions of Germany in the northwest, northeast, southwest and southeast, and therefore from differing natural habitats, were sampled. Species diversity within numerous different wild species was ensured ([http://www.genbank-wel.uni-osnabrueck.de/](http://www.genbank-wel.uni-osnabrueck.de/)).
- Participation in the EU preparatory action workshop “the impact of climate change on the conservation and utilization of CWR in Europe”.
- The project „identification and conservation of historical old grassland” started 2014 in Germany. One of the project aims is the establishment of genetic reserves for the identified grassland sites. The Federal Office for Agriculture and Food (BLE) funds the project.
- Germany has been working on the establishment of a genetic reserve for the European wild grapevine population on a Rhine island in the south of Germany.
- To support the capacity building of genetic reserves after the project phase and especially to establish its role as a national coordinator for genetic reserves, IBV of BLE has provided a cooperation agreement for the establishment of genetic reserves of *Apium* and grassland to the project partners.
- Germany is working on a concept for genetic reserves. First elements are described in the information system on genetic resources: [http://www.genres.de/de/kultur-und-wildpflanzen/erhaltung/in-situ-erhaltung/netzwerk-genetischer-erhaltsgebiete-in-deutschland/](http://www.genres.de/de/kultur-und-wildpflanzen/erhaltung/in-situ-erhaltung/netzwerk-genetischer-erhaltsgebiete-in-deutschland/)
Slovenia:

- Staff from the Slovenian Plant Gene Bank within the Agricultural Institute of Slovenia in 2015 in situ mapped, described and characterized 2 populations of raspberries, 2 populations of wild strawberries, 2 populations of rosehip and 2 populations of dogwood. In addition 88 populations of bilberries were mapped in previous years across Slovenia and are being in situ monitored/conserved. Representatives from populations described in 2015 were transferred to our experimental orchard for further characterisation and ex situ preservation. In addition plants of raspberries, black currant and red currant, found in nature were transferred to the experimental orchard for characterisation and ex situ preservation.

Russia:

- The II Scientific Conference ‘Problems Of Crop Evolution And Systematics’ (dedicated to the 125th birthday of E.N. Sinskaya) was held in St. Petersburg, October 9-10, 2014. The main subjects covered were: (a) Systematics of cultivated plants and their wild relatives, Crops evolution and origin, (b) Ecological and geographical aspects of cultivated plants and their wild relatives, (c) Plant genetic resources conservation problems and (d) Population variability of cultivated plants and their wild relatives.
Annex 1. Enhancing Crop Genepool Use.

Part I Breeders’ Use of Exotic Germplasm

1. Using Phenomics and Genomics to Unlock Landrace and Wild Relative Diversity for Crop Improvement

2. Pre-domesticating Wild Relatives as New Sources of Novel Genetic Diversity
   D. Falk

3. Unravelling Quinoa Domestication with Wild Ancestors
   D. Bertero and A. Alercia

4. Screening Wild Vigna Species and Cowpea (Vigna unguiculata) Landraces for Sources of Resistance to Striga gesnerioides
   O. Oyatomi, C. Fatokun, O. Boukar, M. Abberton and C. Ilori

5. Wild Lactuca saligna: A Rich Source of Variation for Lettuce Breeding
   A. Lebeda, E. Krůstková, M. Kitner, B. Mieslerová and D.A. Pink

6. Capturing Wild Relative and Landrace Diversity for Crop Improvement Using a New Selection Tool to Exploit Genetic Resources in Durum Wheat (Triticum durum Desf.)
   D. Pignone, D. De Paola, N. Rapanà and M. Janni

Part II Improving Access to PGRFA

7. How the Focused Identification of Germplasm Strategy (FIGS) is Used to Mine Plant Genetic Resources Collections for Adaptive Traits
   K. Street, A. Bari, M. Mackay and A. Amri

8. Predictive Characterization Methods for Accessing and Using CWR Diversity

9. Keeping a Finger on the Pulse: Monitoring the Use of CWRs in Crop Improvement
   C. Smith

Part III CWR Conservation

10. Joining Up the Dots: A Systematic Perspective of Crop Wild Relative Conservation and Use

11. Europe’s Crop Wild Relative Diversity: From Conservation Planning to Conservation Action
    S.P. Kell, B.V. Ford-Lloyd and N. Maxted

12. An Approach for In Situ Gap Analysis and Conservation Planning on a Global Scale
    H. Vincent, N.P. Castañeda-Álvarez and N. Maxted

13. The Distributions and Ex Situ Conservation of Crop Wild Relatives: A Global Approach

14. National Strategies for the Conservation of Crop Wild Relatives

Establishing Systematic Crop Wild Relative Conservation in the UK
H. Fielder, B. Ford-Lloyd and N. Maxted

Optimized Site Selection for the In Situ Conservation of Forage CWRs: A Combination of Community- and Genetic-level Perspectives
M.L. Rubio Teso, K. Kinoshita Kinoshita and J.M. Iriondo

Developing a Crop Wild Relative Conservation Strategy for Finland
H. Fitzgerald, H. Korpelainen and M. Veteläinen

Developing a National Crop Wild Relative In Situ Conservation Strategy for Lithuania: Creation of a National CWR Inventory and its Prioritization
J. Labokas, B. Karpavičienė, V. Rašomavičius and B. Gelvonauskis

Priorities for the Conservation of Crop Wild Relatives at the Indian National Genebank
V. Gupta, A. Kak and R.K. Tyagi

Strategies for Detecting Climate Adaptations in Wild Pearl Millet for Future Breeding Use
C. Berthouly-Salazar, C. Mariac, M. Couderc, I.S. Ousseini, S. Santoni, M. Tenailleon and Y. Vigouroux

Assessment of the Conservation Status of Mesoamerican Crop Species and Their Wild Relatives in Light of Climate Change
E. Thomas, M. Ramirez, M. van Zonneveld, J. van Etten, C. Alcázar, M. Beltrán, D. Libreros, S. Pinzón, W. Solano and G. Galluzzi

Part IV LR Conservation

Landrace Conservation of Maize in Mexico and Evolutionary Breeding
H. Perales

Use of Spontaneous Sexually Produced New Landraces of a Vegetatively Propagated Crop of the Andes (Oxalis tuberosa Mol.) to Enhance In Situ Conservation
M. Bonnave, T. Bleeckx, F. Terrazas and P. Bertin

A Long-term Systematic Monitoring Framework for On-farm Conserved Potato Landrace Diversity

A European In Situ (On-Farm) Conservation and Management Strategy for Landraces
V. Negri, P. Freudenthaler, F. Gasi, N. Maxted, P. Mendes Moreira, S. Sträjeru, A. Tan, M. Veteläinen, R. Vogel and J. Weibull

Using Landraces in Agriculture, Food and Cooking: Experiences Around a Large City in Southern Europe
A. Lázaro, I. Fernández and C. de Lorenzo

Hungarian Strategies for the Conservation of Crop Wild Relative and Landrace Diversity
B. Baktay and A. Simon

Assessment of Italian Landrace Density and Species Richness: Useful Criteria for Developing In Situ Conservation Strategies
R. Torricelli, L. Pacicco, M. Bodesmo, L. Raggi and V. Negri
Part V Community-based Conservation and Use

32 Community Biodiversity Management (CBM): A Participatory Methodology that Integrates Empowerment, Livelihoods and On-farm Management of Agrobiodiversity
A. Subedi

33 Evolutionary Plant Breeding: A Method for Rapidly Increasing On-farm Biodiversity to Support Sustainable Livelihoods in an Era of Climate Change
M. Rahmanian, K. Razavi, R. Haghparast, M. Salimi and S. Ceccarelli

34 Value Chain Development: A Silver Bullet for Agrobiodiversity Conservation and Use?
A.G. Drucker and J. Appels

Part VI PGR Conservation and Use Policy

35 Moving Slowly Towards the Light: A Review of Efforts to Create a Global System for PGRFA Over the Last Half-century
M. Halewood

36 On the Conservation and Sustainable Use of Plant Genetic Resources in Europe: A Stakeholder Analysis
L. Frese, A. Palmé, G. Neuhaus, L. Bülow, N. Maxted, G. Poulsen and C. Kik

37 Towards an Improved European Plant Germplasm System
L. Frese, A. Palmé, L. Bülow and C. Kik

38 Impact of the Genetic Resources Policy Landscape on Food Security: An Assessment of the Genetic Resources and Intellectual Property Rights Programme
E. Thörn, C.-G. Thornström and I. Virgin

39 What Do We Have To Lose? Monitoring Crop Genetic Diversity
M.E. Dulloo, I. Thormann and A.G. Drucker

Part VII Conservation Informatics

40 Improved Utilization of Crop Diversity for Rationalized Breeding Using Data Interoperability
R. Finkers

41 Implementation of a PGR Global Documentation System in Portugal

42 The GRIN Taxonomy Crop Wild Relative Inventory
J.H. Wiersema and B. León