

ECPGR WORKING GROUP ON FORAGES

WORKPLAN FOR 2015-2018 AND IDEAS FOR FUTURE WORK

(updated 12 February 2016)

Detailed plan 2015-2018

Activity	Carried out by (leader underlined)	Time frame
Establishing the European Forage Collection (EFC) in line with the goals of AEGIS		
Preparatory work on selection of AEGIS candidates in individual countries before the Forages 2020 workshop.	<u>Petter Marum</u> , Evelin Willner, Valentin Maya Blanco, Bartosz Tomaszewski, Ian D. Thomas, Lajos Horvath, Anna Palmé	2015 (Project Forages 2020)
Evaluation of progress on the selection of AEGIS accessions and of future approaches on this task. Performed at the Forages 2020 workshop.	<u>Petter Marum</u> , Evelin Willner, Valentin Maya Blanco, Bartosz Tomaszewski, Ian D. Thomas, Lajos Horvath, Anna Palmé	2015 (Project Forages 2020)
Evaluate if new features in EURISCO could be developed to facilitate the AEGIS process	<u>Stephan Weise</u> , Petter Marum, Anna Palmé, Evelin Willner, Bartosz Tomaszewski, Wilhelm Graiss, Ian D. Thomas, Valentin Maya Blanco, Lajos Horváth, Kjell-Åke Lundblad, Maria Stamatova	2016 (ECPGR application ForageDB)
Development of crop-specific genebank standards for forages (AQUAS)	<u>Anna Palmé</u> , Ian D. Thomas, Evelin Willner (at a later stage all WG members will be consulted)	2016

Activity	Carried out by (leader underlined)	Time frame
EFC flagging of perennial ryegrass accessions identified as representative of European diversity in the GrassLandscape project	<u>Jean-Paul Sampoux</u> , Evelin Willner, An Ghesquiere, Anna Palmé, Maria Stamatova, Ian D. Thomas	2017-2018
Evaluation of progress of EFC (AEGIS) <ul style="list-style-type: none"> • Continue the evaluation of progress of the selection of AEGIS candidates • Conduct an in-depth study focused on a few selected collections to identify the reason behind non-inclusion • Evaluate the reason for no/little progress (for example need for capacity building) with a survey from collection holders • Based on the two actions above, evaluate what would be needed to increase the number of AEGIS accessions • Plan actions targeted at increasing the number of AEGIS accessions. 	<u>Petter Marum and Anna Palmé</u> , Evelin Willner, Bartosz Tomaszewski, Wilhelm Graiss, Aurélia Priet, Maria Stamatova	2016-2017 (partly included in the ECPGR application ForageDB)
Targeted activities aimed at increasing the number of forage accessions in the EFC. Exact plans made after evaluation described above.	<u>Anna Palmé</u> , Petter Marum, Merja Veteläinen, Evelin Willner, Aurélia Priet	2017-2018
Quantity and quality of data in EURISCO		
Use data in the ECCDBs to identify potential gaps in EURISCO and inform the National Focal Points of these gaps	<u>Stephan Weise</u> , Anna Palmé, Evelin Willner, Petter Marum, Bartosz Tomaszewski, Wilhelm Graiss, Ian D. Thomas, Valentin Maya Blanco, Bartosz Tomaszewski, Lajos Horváth, Kjell-Åke Lundblad, Maria Stamatova	2016 (ECPGR application ForageDB)
Improve the quality of data on forage accessions in EURISCO <ol style="list-style-type: none"> 1. Identify errors in genus, species, crop name, variety names, latitude and longitude 2. Identify duplicates 	<u>Ian D. Thomas</u> , Petter Marum, Anna Palmé, Christoph Grieder, Maria Stamatova, other collection holders	2016-2017

Activity	Carried out by (leader underlined)	Time frame
Include forage-specific descriptors into EURISCO 1. Extract the fields from the Crop Databases that are not in EURISCO and make a separate table 2. Discuss with the Forages WG, the ECPGR and EURISCO about how this information can be conserved in EURISCO.	<u>Ian D. Thomas</u> , Petter Marum, Anna Palmé, Christoph Grieder, database managers, collection holders	2016-2017
Develop a crop portal for forages (gateway). Set up a crop portal presenting data on the forage accessions in EURISCO and also information on, and links to, the European forage collections.	<u>Ian D. Thomas</u> , Petter Marum, Anna Palmé, Stephan Weise, Maria Stamatova	2016-2018 (initiated within the ECPGR application ForageDB)
Evaluate the possibility to flag several different levels of core collections in EURISCO, based on different phenotypic and genotypic traits. Data from the GrassLandscape project would be used to define core collection in perennial ryegrass as a first step.	<u>Jean-Paul Sampoux</u> , Evelin Willner, Stephan Weise, Maria Stamatova, Ian D. Thomas	2017-2018
Characterization and evaluation (C&E) data		
Facilitating access to European C&E data <ul style="list-style-type: none"> • Survey on existing C&E data • Presentation and evaluation of the survey results at the ECPGR workshop 2015 • Preparation of a plan for inclusion of the C&E data in EURISCO • Publication of the C&E survey on the Forages 2020 webpage 	<u>Evelin Willner</u> , Ian D. Thomas, Photini Mylona	2015 (Project Forages 2020)
Entering C&E data of forage accessions into EURISCO 1) Development of a <ol style="list-style-type: none"> a) Demo version for C&E data in EURISCO (tested with forage data sets from different genebanks) b) Procedure for data flow (technical and legal aspects) 2) “Official procedure test”	<u>Evelin Willner and Stephan Weise</u> Partners providing data: NordGen (Anna Palmé, Kjell-Åke Lundblad), IPK (Evelin Willner), CGN, Agroscope (Beat Boller, Christoph Grieder), IBERS (Ian D. Thomas), data from GrassLandscape project (Jean-Paul Sampoux), IPGR (Maria Stamatova)	2016 (the ECPGR application ForageDB)

Activity	Carried out by (leader underlined)	Time frame
<p>Development of a trait short-list for characterization implemented during regeneration</p> <p>AIM: To have standardized basic characterization data for AEGIS accessions (AQUAS)</p> <ol style="list-style-type: none"> 1. Development of recommended list of traits with reference varieties 2. Review of the list 3. Development of final list 	<p><u>Evelin Willner</u>, Beat Boller, All WG members consulted</p>	<p>2016</p>
<i>In situ</i> conservation of forage crops		
<p>Put together an application on practical <i>in situ</i> management problem resolution</p> <ul style="list-style-type: none"> • Impact of inbreeding / outcrossing, wind and insect pollination on conservation for different forage species • How to promote <i>Lolium perenne</i> and clover persistency in grassland (3-5 yr study) • Review of different kinds of reseeded and potential loss of diversity 	<p><u>Susanne Barth</u>, Anna Palmé, Maria Stamatova</p>	<p>2016-2018</p>
<p>Marie Curie application for a PhD project: "Improving the use of forage CWR diversity in cultivar production"</p>	<p><u>Nigel Maxted</u>, Petter Marum, Anna Palmé</p>	<p>2016</p>
<p>Grassland ecotype diversity assessment</p> <ul style="list-style-type: none"> • Inventory of different types and locations of grasslands in Europe 	<p><u>Anna Palmé</u>, Juozas Labokas, Valerijus Rasomavicius, Egle Norkeviciene, Susanne Barth, Maria Stamatova</p>	<p>2017-2018</p>
<p>Drafting and developing of policy and practical standards for <i>in situ</i> management of forages. Forages are different from many CWRs since many species can be conserved on managed grassland.</p>	<p><u>Susanne Barth</u>, Anna Palmé</p>	<p>2016-2018</p>
<p>In cooperation with the GrassLandscape project, develop a number of genetic pools adapted to future climatic conditions in different regions of Europe according to several climate change scenarios. The aim would be to make these seeds available for reseeded meadows damaged by climate change.</p>	<p><u>Jean-Paul Sampoux</u>, Evelin Willner, Maria Stamatova, Ian D. Thomas, Dionysia Fasoula</p>	<p>2017-2018</p>
<p>Joint workshop between the ECPGR WG on Forages and the WG on Wild Species Conservation in Genetic Reserves</p>	<p><u>Nigel Maxted and Anna Palmé</u></p>	<p>2018</p>

Future plans

Listed below are a number of suggested activities and ideas that do not fit into the workplan for the current period. The reason for not including them in the workplan is generally that there is not enough time, or that they are not appropriate to perform within the given timeframe and/or that there are no WG members willing to take on this task at this time. These activities will most likely be actualized after 2018 or earlier if new partners are interested or if funding opportunities are made available.

- Conduct a gap analysis on the EFC and evaluate what actions are needed to fill the gaps (after most countries have gone through the process of flagging AEGIS accessions).
- Apply for funding for collecting missions to fill gaps in the AEGIS collection (identified in the task above).
- Evaluate the conservation standards (for example duplication), regeneration standards and availability of accessions in the EFC.
- Arrange a workshop on quality assurance in PGR conservation in cooperation with other ECPGR WGs.
- Collect information on species-specific *ex situ* management protocols for forage CWRs.
- Evaluate what traits that would be most central to evaluate in the EFC accessions. Contact breeders and pre-breeders to collect this information. Focus on traits of importance for agriculture and breeding.
- Apply for external funding for evaluation of accessions in the EFC of a certain species. Focus on agriculturally relevant traits. Start with a survey on what traits are of interest in the focus species.
- Grassland ecotype reference sites: establishment of a range of provenance sites for grassland ecotypes, within country and regionally across Europe.
- Forage threat and threat assessment: estimation of levels of threat to distinct ecotypes identified using ELC maps and genetic diversity and distance analysis; likely threats are grazing intensification (necessitating reseeding) and land abandonment.