

ECPGR Activity Grant Scheme Proposal Form

Activity Proposal

Activity	
Full title	Identification of a representative set of <i>Prunus domestica</i> accessions of European origin, well documented and characterized, to be included into the AEGIS system
Acronym (or short title)	PRUNDOC
Duration of Activity (in months)	12
Starting date	1.01.2015

Applying Working Group(s)

Working Group	Indicate name and surname of Working Group Chair
1. Prunus	Daniela Giovannini
2.	
3.	
4.	

Activity Coordinator

Activity Coordinator	
Name and Surname	Stein Harald Hjeltnes
Nationality	Norwegian
Current position	CEO
Institute	Njøs næringsutvikling
Country	Norway
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Activity Partners

Please note that each partner needs to be a member of a Working Group's Pool of Experts to be eligible.

A maximum of 12 funded partners can be listed. For self-funded partners please use the separate box below.

Partner ID No.	Name and Surname	Institute	Country
1	Stein Harald Hjeltnes	Njøs næringsutvikling (NOR053)	Norway
2	Daniela Giovannini	Agr. Res. Council – Fruit Tree Research Unit of Forlì (ITA380)	Italy
3	Marine Blouin	French National Institute for Agricultural Research (INRA – FRA057)	France
4	Daniela Benedikova	National Agriculture and Food Center Luzianky, Research Institute of Plant Production Piestany, Gene bank of Slovak Republic (SVK001)	Slovakia
5	Eva Gantar	Education and Research Centre for Viticulture and Pomology Klosterneuburg (AUT024)	Austria
6	Monika Höfer	Julius Kühn-Institute, Institute for Breeding Research on Fruit Crops (DEU451)	Germany
7	Pavlina Drogoudi (*)	Pomology Institute, Hellenic Agricultural Organisation 'Demeter' D.G. of Agricultural Research (GRC012)	Greece
8	Vladislav Ognjanov	University of Novi Sad, Faculty of Agriculture, Department for fruitgrowing, viticulture and landscape architecture (SRB028)	Serbia
9	Gunars Lacis	Latvia State Institute of Fruit-Growing (LVA015)	Latvia

Self-funded partners

Partner No.	Name and Surname	Institute	Country
1	Marc Lateur	Agricultural Research Centre (CRA-W)	Belgium
2			

Description of Activity

Please address the following aspects: Background – Justification – Methodology or Approach – Expected impact.

Describe the Activity (max. 500 words):

European plums (*Prunus domestica*), and subspecies, are part of the WG Prunus responsibility. To date, 33 collections have sent data to the European Prunus Database (EPDB), with a total of 3.500 accessions. Establishing AEGIS collection is an output (no. 1.2) of ECPGR for phase IX. As stated by E. Balsemin (2008) in the Progress report of the AEGIS model crop: *Prunus* ([link](#)), the EPDB is a good and easy tool for the application of selection criteria for MAA identification. However, some limits were high-lighted, like problems of synonymy and trueness-to-name. Moreover, there are available new SSR primers that could be used to distinguish between genotypes and identify duplicates (Horvath et al. 2011; Sehic et al. 2014).

We propose to develop and test MAA selection methodology using both new SSR primers and the EPDB, on plum species.

The participants will present their candidates (3-30 genotypes) for which they can supply phenotypic data, and which are the most unique that are suggested to be studied genotypically. Agreements will be reached in advance with the respective National Coordinator that the selected accessions will eventually be flagged for AEGIS, if recommended as a result of this activity. Characterization and evaluation will be based on previously agreed standards (“General protocols for using the ECPGR descriptors for *Prunus* spp” and “AEGIS selection of Most Appropriate Accessions List of minimum passport descriptors for all *Prunus* species”) and the compendium “Obst-Deskriptoren NAP” from Switzerland presented at the WG *Prunus* meeting in Forlì in 2010. Supplementary characters to address ECPGR output 5.1, to identify which data are of highest relevance for potential users, will be added. Thereafter, a protocol for the phenotypic registrations and selection of historic data will be agreed, as basic for the registrations in 2015. The phenotypical characterization will include about 100 genotypes, and will be uploaded into the EPDB and EURISCO, in accordance with decisions taken in the Doc & Info meeting recently held.

Leaf samples from a subgroup of the material will be sent to Balsgård in Sweden for analyses according to specifications given by this laboratory.

The participants will upload new and historic data together with passport data, if not previously included in the database, to the database manager, who will synchronize the data with the EURISCO catalogue. Pictures of fruits from the genotypes will be uploaded together with descriptor data. Results from the SSR analyses at Balsgård will be sent to the database manager through the project leader and WG chair.

The WG chair together with the project team, will make a list of MAA accessions to be flagged as AEGIS by the respective National Coordinators. Owing to the current impossibility to exchange material unless it is tested for quarantine viruses, National Coordinators will be invited to notify to the Secretariat that the exchange of flagged *Prunus* accessions remains conditioned by phytosanitary constraints.

The WG chair and the project leader will keep contact with the WG Malus/Pyrus chair throughout the project to coordinate possible common challenges and solutions.

ECPGR Objective(s)

Objectives must be feasible and achievable within the project timeline. Please list here the corresponding number(s) of the ECPGR Outcome(s) and/or Output(s) and/or Activities to which your proposed Activity will contribute. The logframe describing ECPGR objectives is available from the website.

List ECPGR outcomes, outputs, activities to which this Activity contributes:
Outcome 1, output 1.1.; activity 1.1.2. (Establishment of proper documentation of AEGIS accessions).
Outcome 1, output 1.2.; activity 1.2.1. (Identification of eligible accessions to be proposed for registration as AEGIS accessions)
Outcome 1, output 1.2.; activity 1.2.2. (Verification of the proposed AEGIS accessions)
Outcome 1, output 1.5.; activity 1.5.3. (Services for characterization, evaluation and/or phenotyping of AEGIS accessions provided to AMs)
Outcome 2, output 2.1.; activity 5.2.1.2. (Collaboration between NFPs and collection holding institutes strengthened).

Expected products

List concrete products and results that are obtained by the Activity

Expected products/results
- ECPGR agreed list of First Priority Descriptors (FPD) to describe plum accessions of the EU collection
- 100 plum accessions verified and uploaded into the EURISCO catalogue
- 100 plum accessions verified, characterized according to FPD and uploaded into the Prunus DB
- 30 plum accessions identified by SSR markers and data uploaded into the Prunus DB
- Guidelines for developing a Plum-specific procedure for the selection of the MAA accessions, to be extended in future to other Prunus species
- First core of EU plum accessions candidates to entering AEGIS identified
- Establishment of a network for further work on characterization and evaluation of plums genetic resources

Workplan for the proposed period of the Activity

Brief description of meetings and/or main actions of the Activity.

Type of Action (indicate if "meeting" or "other action")	Description
1. Other action	Listing of the accessions offered to the EU plum collection and candidate to become AEGIS accession (All partners)
2. Meeting	Meeting for consensus listing of the First Priority Descriptors (FPD) to be used to describe the plum accessions of the EU collection; partners will agree on the FPD list (All partners and EPDB manager); brainstorming to recommend a strategy that would enable exchange of material in the future, overcoming the current phytosanitary constraints

3. Other action	Collecting and sending material of a subset of the accessions offered, chosen through criteria agreed by the partners, for SSR analyses to a unique laboratory ^(**) (All partners)
4. Other action	Compilation of a pre-formatted excel sheet (EPDB manager) with characterization data of all the accessions offered for uploading into the EPDB (All partners)
5. Other action	Uploading the data of action 4. and SSR data from genetic analyses into the EPDB and into the EURISCO catalogue (EPDB manager)
6. Other action	Establishing criteria for acceptance to candidates to enter AEGIS collection. Agreement will be reached through e-mails, if necessary by phone or Skype (All partners and EPDB manager)
7. Other action	Evaluate the offered accessions on the basis of the criteria established in action 6. and flag ^(***) the accessions that fulfil the requisites of the AEGIS collection

Additional remarks

Indicate any additional remark(s) that is/are important for the evaluation/implementation of the proposed Activity

Remarks:
<p>(*) Participation of the partner from Greece is subordinated to the accomplishment of this country to the procedures required to be part of ECPGR and AEGIS</p> <p>(**) Leaf samples will be sent to Department of Plant Breeding - Balsgård, Swedish University of Agricultural Sciences, where prof. Hilde Nybom will be in charge of further SSR analyses. The choice is justified by previous experience of said lab in genotyping plum, which, due to its hexaploid nature, is much more complex to analyse and to interpret compared to diploid ones. Method followed will be that developed by Sehic and Gasi and presented in a poster at the ISHS international congress in Brisbane 2014. The analyses and interpretation of the results will be carried out on a commercial basis.</p> <p>(***) The flagging will not ensure the possibility to exchange material, owing to phytosanitary constraints</p>

Please send the completed form together with the budget table to the Chair of the submitting Working Group for submission of the Activity proposal.