



ECPGR Activity Grant Scheme Proposal Form

First Call – Phase X (2019-2023)

Activity Proposal

Activity	
Full title	Enhancing quality and quantity of <i>Vitis</i> genetic resources in AEGIS
Acronym (or short title)	AEG-VIT-IS
Duration of Activity (in months)	12
Start date – End date Please indicate start date not earlier than 3 months after deadline of call	01 January 2020

Applying Working Group(s)

	Working Group	Indicate name and surname of Working Group Chair
1.	Vitis	Thierry Lacombe
2.		
3.		
4.		

Activity Coordinator

Activity Coordinator	
Name and Surname	Gregorio Muñoz Organero
Nationality	Spanish
Current position	Head of Research Service
Institute	Instituto Madrileño de Investigación y Desarrollo Rural, Agrario y Alimentario (IMIDRA)
Country	Spain
Telephone	+34 918879483
Email	gregorio.munoz@madrid.org

**ECPGR Activity Grant Scheme
Proposal Form**

First Call – Phase X (2019-2023)

Activity Partners (ECPGR-funded)

Please note that each partner needs to be a member of an ECPGR Working Group to be eligible for funding. For self-funded partners please use the separate box below.

Partner ID No.	Name and Surname	Institute	Country
1	Thierry Lacombe	INRA – Montpellier	France
2	Erika Maul	Julius Kühn-Institut (JKI)	Germany
3	Georgios Merkouropoulos	DEMETER	Greece
4	Dragan Nikolic	University of Belgrade. Faculty of Agriculture	Serbia
5	Jorge Manuel Martins Cunha	INIAV	Portugal
6	Frida Carka	University of Tirana. Institute of Plant Genetic Resources	Albania
7	Gunars Lacis	Institute of Horticulture (LatHort)	Latvia
8	Ferdinand Regner	HBLA und BA für Wein und Obstbau Klosterneuburg	Austria
9	Savvas Savvides	Agricultural Research Institute	Cyprus
10	Goran Zdunic	Institute for Adriatic Crops and Karst Reclamation	Croatia
11	Stanko Vrsic	University of Maribor. Faculty of Agriculture and Life Sciences	Slovenia
12	Edi Maletic	University of Zagreb. Faculty of Agriculture	Croatia
13	Dragoslav Ivanisevic	University of Novi Sad. Faculty of Agriculture.	Serbia
14	Vesna Maras	13 Jul Plantaze	Montenegro
15	David Maghradze	Caucasus International University	Georgia
16	Gregorio Muñoz Organero	IMIDRA	Spain*
17	Massimo Gardiman	Centro di Ricerca per la Viticoltura - CRA-VIT	Italy*
18	Matthew Ordidge	University of Reading. School of Biological Sciences	United Kingdom
19	Klime Beleski	University of Skopje	North Macedonia
20	Pavel Pavlousek	University of Brno	Czech Republic

* Self-funded in case respective country remains ineligible for ECPGR funding

Self-funded partners

Partner No.	Name and Surname	Institute	Country
21	Jose Eduardo Eiras-Dias	INIAV	Portugal

**ECPGR Activity Grant Scheme
Proposal Form**

First Call – Phase X (2019-2023)

Description of Activity (suggested max. 1000 words)

Please address the following aspects:

– **Background:** Explain the context behind the choice of this Activity, e.g. why this has been prioritized or selected. If this is the continuation of a preceding Activity, please indicate how and why the new Activity will build on previous results/experiences.

AEGIS aims to be an integrated system for plant genetic resources for food and agriculture in Europe, conserving genetically unique accessions that are important for Europe and making them readily available and easily accessible for breeding and research. The slow progress of AEGIS was noted on the basis of the low number of accessions flagged in EURISCO as part of the “European Collection”. The ECPGR workshop held in Madrid at the end of 2018, aimed assessing procedures to strengthen AEGIS. It is expected for 2019 that membership of AEGIS could be extended to France, Serbia and Spain. The European Collection should substantially increase its size, the quality standards are expected to be agreed for most crops and the blueprint of a quality monitoring system should be tested.

At this moment the number of total European Accessions is 56.730, but only 145 belong to the genus *Vitis*, flagged for AEGIS by five countries (8 from Albania, 90 from Croatia, 3 from Czech Republic, 31 from Germany and 13 from Italy). It is necessary a joint action of ECPGR *Vitis* Working Group to identify and raise the number of unique *Vitis* genotypes AEGIS flagged in EURISCO with harmonized and quality criteria based on the existing European *Vitis* Database (EVDB). A total of 24.039 prime names from *Vitis* accessions mostly conserved in European repositories are cited in the *Vitis* International Variety Catalogue (VIVC). Misnaming in the worldwide grapevine collections is estimated at between 5 and 10%. The difficulties caused by synonyms and homonyms are unexpectedly high for grapevine, due to historical fact that identical cultivars are named differently or distinct grapevines were known under the same or a similar name. There are still unsolved identities.

– **Justification:** Explain why this Activity is justified in terms of making progress towards achieving the ECPGR objectives.

The efficiently conservation and access to unique germplasm in Europe through AEGIS and the European Collection is clearly addressed in ECPGR objective 1 in the current phase X (2019 – 2023). Some activities within objective 1 are fully or partly under the responsibility of Crop Working Groups (i.e. 1.2.2 “Verification of the European Collection by crops in terms of representation of the *ex situ* PGR diversity”, 1.6.2. “Standards: agree on crop-specific genebank standards” and 1.8.2. “ECPGR-mediated characterization, evaluation and/or phenotyping/genotyping of AEGIS accessions”) and provide relevant information for other activities as 1.2.1. “Identification of new European Accessions for inclusion into AEGIS”.

– **Rationale for the choice of partners:** Explain why the selected partners are the most suitable to carry out the proposed Activity and briefly describe their respective roles in the Activity.

Partners preserving public grapevine collections with unique genotypes and located in countries with important regions in wine-growing are the most suitable to carry out the proposed Activity. Partners with long experience in recovering and managing *Vitis* genetic resources will offer their expertise in order to established common guidelines for AEGIS development in *Vitis*. The role of every partner in the Activity is to share ampelographical and molecular data (in particular data acquired during previous European projects GenRes01, GrapeGen06, Cost FA1003) to search unique genotypes and to clarify unsolved identities. All partners will contribute to elaborate a list of safety duplications in their repositories to make AEGIS Quality System (AQUAS) operational; and standards for the conservation of *Vitis* accessions will be reviewed and updated by them.

– **Methodology or Approach:** Explain how the partners will operate. Clearly explain who is expected

**ECPGR Activity Grant Scheme
Proposal Form**

First Call – Phase X (2019-2023)

to do what. Also explain the rationale of meeting (or not) as part of the Activity. Include a Gantt Chart, to illustrate the work breakdown structure of the project.

Task 1: Stablish common rules for selecting candidate genotypes within each repository.

Task 2: Searching unique genotypes candidates for AEGIS

A list of candidates will be elaborated by each partner in their own repository. Ampelographical, molecular and phenotypical minimal descriptors will be selected within the framework of previous EU projects (GenRes081, GrapeGen06, COST FA1003) based on the European Vitis Database which will be updated.

Task 3: Selection and clarification of unsolved identities.

In order to identify the Most Appropriate Accessions (MAA) to be AEGIS flagged in EURISCO, the candidate genotypes will be checked for their varietal identity. Accessions of unsolved identity will be analysed, sharing characterization data from all partners and examining information in bibliography to classify accessions as true-to-type, synonyms or misnames.

Task 4: Safety duplications in repositories

Comparison of information among all partners will allow the detection of safety duplications. A list of current duplications will be elaborated and locations in other repositories for candidate accessions not duplicated will be proposed. Minor varieties or accessions with more risk of extinction will be marked as a priority. In order to preserve intra-varietal diversity, synonyms of rare, threatened varieties would be preserved into AEGIS instead of being discarded.

Task 5: Review of standards and implementation of operational manuals.

Vitis specific genebank standards will be reviewed, updated and integrated to facilitate the implementation of operational genebank manuals by *Vitis* repositories. Several standards have been suggested up to now (FAO field genebanks standards, standards for the conservation of *Vitis* accessions, three protocols for germplasm sustainable conservation and template for the preparation of operational genebank manuals), but only five countries (including two *Vitis* repositories from Switzerland and Czech Republic) have implemented operational manuals.

– **Description of genetic material:** If your Activity is focusing on genetic material, please describe in detail, as far as possible, who is providing this genetic material, its status and the number of accessions under investigation (for example: *This Activity aims at molecularly analysing / safety-duplicating / evaluating / collecting XY accessions (listed) of “Genus species”, provided by genebank Z/ farmers in country W /to be collected in country P..., etc.*).

(none)

– **Expected impact.** Clearly specify the expected impact from this Activity for the respective ECPGR objective(s), compared to the current state of progress of those same objectives. Explain how the impact will be obtained.

- (1) Increase the number of *Vitis* candidates to AEGIS by identifying and selecting unique genotypes and then propose to national coordinators for inclusion into AEGIS.
- (2) Improve the quality system by implementing operational genebank manuals by a higher number of *Vitis* repositories.
- (3) Enhance the preservation of AEGIS accessions by the identification and implementation of safety duplicates, particularly of the most threatened genotypes.
- (4) Make AEGIS better known and more accessible to potential members.

**ECPGR Activity Grant Scheme
Proposal Form**

First Call – Phase X (2019-2023)

– *Links with other non-ECPGR projects or individuals:* If applicable, clearly explain the objectives of the linked projects and the reasons for complementarity with the ECPGR Activity.

(none)

**ECPGR Activity Grant Scheme
Proposal Form**

First Call – Phase X (2019-2023)

Expected products and related ECPGR Objectives

List concrete products and results that are obtained by the Activity and the corresponding number(s) of the ECPGR Outcome(s) and/or Output(s) and/or Activities to which each product/result will contribute.

	Expected products/results	Corresponding ECPGR output, activity
1	Establishment of guidelines for selecting candidate <i>Vitis</i> accessions to be flagged as AEGIS resources.	1.2.1 Identification of new European Accessions for inclusion into AEGIS 1.2.2 Verification of the European Collection by crops in terms of representation of the <i>ex situ</i> PGR diversity
2	List of unique genotypes candidates to AEGIS by country	1.2.1 Identification of new European Accessions for inclusion into AEGIS 1.2.2 Verification of the European Collection by crops in terms of representation of the <i>ex situ</i> PGR diversity
3	List of new identified accessions preserved in European repositories as true-to-type. Identification of synonyms and misnames.	1.2.1 Identification of new European Accessions for inclusion into AEGIS 1.2.2 Verification of the European Collection by crops in terms of representation of the <i>ex situ</i> PGR diversity
4	Identification of safety duplicates and proposal for threatened and not duplicated genotypes.	1.2.1 Identification of new European Accessions for inclusion into AEGIS 1.2.2 Verification of the European Collection by crops in terms of representation of the <i>ex situ</i> PGR diversity
5	Operational manuals of repositories available to upload to ECPGR. Modifications proposed to current standards.	1.6.2 Standards: agree on crop-specific genebank standards

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")
1 other action	<u>Month 1 to 3:</u> Establishment of guidelines for selecting candidate <i>Vitis</i> accessions to be flagged as AEGIS resources. Selection of candidates to AEGIS by each country having into account the information included in guidelines to justify their interest. Selection of unsolved identities in repositories. Updating the EVDB.
2 other action	<u>Month 4 to 6:</u> checking data with EVDB and VIVC to solve identification issues. Searching safety duplicates by each repository in other ones having into account MCPD data, EVDB and VIVC information. Elaboration of list of genotypes non duplicated. Reviewing quality standards for grapevine repositories.

**ECPGR Activity Grant Scheme
Proposal Form**

First Call – Phase X (2019-2023)

3 meeting	<u>Month 7</u> : Presentation and evaluation of results regarding (a) list of unique genotypes candidates to AEGIS, (b) results of identities solved and unsolved, (c) list of genotypes not duplicated and discussion about where and when to carry out safety duplication, (d) review standards to make operational manuals of repositories, (e) discussion on modifications to current quality standards.
4 other action	<u>Month 8 to 11</u> : Preparation of reports and operational manuals of repositories.
5 other action	<u>Month 12</u> : Sending to ECPGR secretariat and National Coordinators the operational manuals and the list of AEGIS candidates.

Additional remarks

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

Remarks:

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