

WG *Malus/Pyrus* – Short activity report for 2014-2015 periods

A.1. AEGIS-related tasks

ECPGR Activity Grant Scheme - EcoHisPy – ‘Building and promoting a European *Pyrus* collection – A case study’.

During 2014, the WG members were invited to make proposals of specific activities in response to the first call. This project was coordinated and submitted by the chair the 30/09/2014 and approved for starting early 2015. Its main objectives were to implement the concepts of AEGIS on a limited number of pear accessions as a case-study. The project initially involved 16 partners and progressively during the progress of the activities some new partners asked to be involved too; finally three new teams have been involved in the project for achieving a total number of 19 different countries.

Criteria for defining pear cultivars (cvs) accessions candidates for the AEGIS concept have been adopted and implemented by each partner. Lists of ‘most original and with national historical origin’ cultivars have been sent by each partner and historical data and references are shared. Partner candidate cultivar lists have been collated in a standardized format following MCPD and EURISCO rules. Concerning the identification of gaps, synonyms,... and to get the possibility to propose a common MAA’s list a centralized compilation of SSR’s analysis results has been set up to merge data from this current study together with those of Germany, UK and Switzerland formerly produced in other frameworks; the complete data set grouped data from a total of 220 pear accessions that have at least 9 SSR’s markers in common.

Common descriptors described in the draft “ECPGR Methods and priority Characterization & Evaluation (C & E) Descriptors for *Pyrus communis* Genetic Resources – Version March 2015” have been agreed and applied during 2016 harvest period by all partners on their most original cultivars. Standardized templates have been produced and sent to the partners for encoding both C & E data and cvs description data.

A final list of the most original and historical European pear cvs defined as “Most Appropriate Accessions (MAA)” is proposed to belong to the AEGIS concept and is finally described by each partner on common bases.

A.2. Other tasks (often related to AEGIS too).

- The WG chair organized a short meeting with 9 attending members during the “EUCARPIA – Fruit Genetics & Breeding” symposium held at Bologna - 15-18th of June 2015.
- Generate overviews of the *Malus/Pyrus* Genetic Resources situation.
 - In the framework of the EU FruitBreedomics project, the Chair organized a survey on different topics (Facilities, ranking objectives of collections, C & E current activities, uses of collections, implementation of national/core collection, pre-breeding & breeding activities, use of molecular markers) across the *Malus/Pyrus* Genetic Resources community.
 - Contribution to the survey of the Global Crop Diversity Trust to assess the collection status of Apple Collections Worldwide.
- **Initiate and coordinate the preparation of project ideas and proposals for funding:**

- Active contribution to the setting up of projects in response to the EU call topic
Research and Innovation actions - SFS-07 a & b 2015-2015 : Traditional resources for agricultural diversity//Management and sustainable use of genetic resources:

- a. “Local Pome Fruit” – Utilization of local apple and pear varieties for sustainable horticulture and healthy food production. (Coordinator : Viola HANKE). Seven members of the *Malus/Pyrus* WG were involved, Chair as co-coordinator of WP1 dealing with C & E of genetic resources collections.

The main objectives were (1) Enhancing characterization and evaluation of local apple and pear cultivars preserved in European ex-situ collections; (2) Evaluating local apple and pear cultivars for new production systems and markets; (3) Utilizing local apple and pear cultivars in fruit breeding and pre-breeding; (4) Evaluating the socio-economic effects of a diversification of fruit production, and consumers’ perspective on local apples and pears.

Project submitted 1st step, 12/03/2014; second step, 26/06/2014.

Final score : 13/15 – not funded.

- b. “Pome Fruit GENRES” - Management and utilization of pome fruit genetic resources for sustainable horticulture and healthy food production. (Coordinator : Viola HANKE – JKI, Dresden). Huge number of **18 *Malus/Pyrus* WG members** were involved in this project. Chair was coordinator of WP1 dealing with Ex-situ collections - Networking, harmonizing management and safe conservation.

The main objectives were : (1) Harmonize and enhance management of existing ex-situ collections and databases and implement conservation systems for pome FGR - contribution to the co-ordination of the European Genebank Integrated System for apple and pear, building on the AEGIS concept with defined rules for responsibility sharing across European collections. Identification of priority sets of cultivars (Priority European Accessions, PEA) with unique and diverse traits, and nominates Most Appropriate Accessions (MAA) for inclusion in the AEGIS European Collection and finally in the EURISCO DB;(2) Enhance acquisition and support conservation of CWR; (3) Enhance characterization and evaluation of pome FGR conserved in ex-situ collections; (4) Sustainable use of pome FGR in fruit breeding and genetic enhancement; (5) Sustainable use of pome FGR in farming and product development; (6) Consumer acceptance of traditional cultivars; (7) Awareness raising and dialog among actors and target groups.

Project submitted 1st step, 03/02/2015; second step, 11/06/2015.

*Final score : **14,5/15** – not funded! **Very very frustrating exercise!!!!***

- c. “EUFRUNET” -European Fruit Resources Diversity Network (Coordinator : Jean-Marc AUDERGON – INRA, Avignon.)

Five *Malus/Pyrus* WG members were involved in this project. Chair was coordinator of WP2 dealing with definition of new evaluation methods fitting with next future fruit growing challenges.

The main objectives were : (1) Progress in the identification and characterization of fruit-tree genetic resources;(2) Progress in the definition of new traits and adapted evaluation methods fitting with next future fruit growing challenges; (3) Progress in the evaluation of the sanitary status of fruit-tree genetic resources; (4) Progress in optimizing the exploitation of the Fruit GR to increase breeding efficiency; (5) Progress in the coordination of a EU-harmonized evaluation of the Fruit GR.

Project submitted 1st step, 03/02/2015; second step, 11/06/2015.

Final score : 9,5/15 – not funded.

A.3. General Opinions on:

- WG functioning:
 - The new nomination procedure of WG members by NC's is to re-evaluate, it needs probably a compromise between the old and the new system. (e.g. one responsible/country + some complementary experts as 'assistant' depending on specific topics).
 - It is proposed to organize periodically WG meetings for all members in order to achieve sufficient interaction with each country – then asking to each member to produce periodically a short activity report.
 - Difficulty to find out in such transition period the good procedure for choosing Chairs and therefore the evaluation procedure that has been organized was not so appropriate. The position of vice-chair is well important.
- ECPGR public, PGR potential users and decision makers awareness:
 - Need of a much better communication strategy from ECPGR to enhance (1) his official status, (2) the multiple roles, objectives and strategies; (3) the functioning procedures and tools; (4) his results.
- AEGIS concept:
 - Like it is, not easy to implement even on basis of 1-200 pear accessions out of 5-6000! Molecular markers studies are very useful tools.
 - Perhaps introduce intermediate steps like (1) intra-country sub-regional list of cvs + MAA's; (2) National list and proposed MAA's that **get an official status** from regional and national governments; (3) instead of having an pan European system, ask to first to countries to build smaller networks of trans-borders regions and/or countries that work together for sharing responsibilities and signing protocols of cooperation.
 - Big difficulties with perennials and vegetative propagated PGR with quarantine pest & diseases that reduce drastically the free exchange of material – need of effort to tackle this problem encountered by many collection curators.
- New ECPGR Grant scheme process:
 - It has the advantage to be a bottom up procedure
 - More partners wanted to get some funds that are very short
 - One year project period on perennial PGR is very short!
 - Deliverables need to be more focus to enhance public, PGR potential users and decision makers awareness.
- Miscellaneous : I feel that there is an important need to point out the importance for curators to implement pre-breeding actions.