



Lathyrus diversity:
available resources with
relevance to crop
improvement – progress
reviews and relationship with
AEGIS
(EU Grain Leg)

Meeting of the ECPGR Activity “EU Grain Leg”
10-11 April 2019, Bucharest, Romania




Lathyrus diversity: available resources with relevance to crop improvement – progress reviews and relationship with AEGIS



Our main purpose is to **investigate a large variability to accomplish results able to be exploited in different direction** as follows: feed, food, organic cultivation, use as green fertilizer.

The importance of GL_WG proposal is highlighted by the **current global interest to find solutions in terms of providing enough vegetal protein resources and clean environment for the world population.**



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The context behind the choice of this Activity

- The Activity has been prioritized according to EURISCO and AEGIS data. There is still need for focus on Grain Legumes species due to the **low number of accessions** for some species (*Lathyrus*) and **not well systematized data**. The current Activity will act in two directions:

- (1) AEGIS progress and improved data on European Grain Legumes PGR
- (2) Improvement of GL WG work (collaboration based on focus crop/ species, in order to facilitate experience and knowledge exchange)

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Justification: activity is justified in terms of making progress towards achieving the ECPGR objectives



- Establishment of European Grain Legume Collection needs updates and improvements, taking in account the **large number of species managed inside the group.**
- The members of GL WG need a frame for **interaction**, in order to ensure the **exchange** of knowledge and biological material with the aim of speed up the process of recommendation of GL GR as AEGIS accessions.
- In many cases, members highlighted the existence of significant diversity of *Lathyrus* sp. PGR, but in same time there are difficulties/ gaps in order to identify accessions as AEGIS accessions, recording to registered data.

Rationale for the choice of partners:

The **members and the topic** of activity were decided based on survey, before submission.

(step 1) Survey in GL WG in order to detect member's interest on different species, activities and availability to act as members or coordinators of team's project.

(step 2) Search of Grain Legumes collection in EURISCO and AEGIS (in order to identify the species that need improvement of accessions number and data) *Lathyrus* species was prioritized.

(step 3) Cooperation with ECPGR Secretariat in order to check member's eligibility.



TEAM AND MEETING PARTICIPANTS

No	FUNDED MEMBERS	No	SELF FUNDED MEMBERS
1	ROMANIA	1	ROMANIA
2	BULGARIA	2	SERBIA
3	PORTUGAL	3	RUSSIA
4	GREECE		INVITED, OBSERVERS
5	SERBIA	1	GERMANY
6	SLOVENIA	2	LEBANON
7	UK	3	ITALY
8	BOSNIA HERZEGOVINA	4	ROMANIA

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Approach

- (A) **Inventory and collecting** of PG material - study focused on improvement of each country *Lathyrus* collection.
- (B) Workshop with the aim to **analyze** the national collection of *Lathyrus*, **establishment of a *Lathyrus* panel, exchange material and knowledge.**
- (C) **Investigations** towards the establishment of a high quality *Lathyrus* according to the principles of AEGIS.
- (D) The results will be documented and future activities planned, according to the group interact strategy.



**TO BE DISCUSSED AND ESTABLISHED
AT THE MEETING**

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Traits proposed to be investigated as mandatory



- phenological traits (days to beginning of flowering, days to flowering, days to maximum flowering, days to the end of flowering, days to harvest, days to maturity)
- growth habit and architectural traits: plant height, height to first pod
- symptoms of pest and diseases
-



Traits proposed to be investigated as mandatory

- pod traits: shape, size
- seed traits color, shape, coat surface,
- seed productivity (number of branches, number of pods per plant, number of seeds per pod, number of seeds per plant, weight of seed per plant, mass per 100 seeds)
- protein content in seeds it will be decided on which accessions it will be accomplished.



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Data on selected set of
European *Lathyrus* spp.
accessions



Increasing the number of
AEGIS *Lathyrus* sp.
accessions



Acquired information will
be useful for end users



Increasing quality and
quantity of data in
EURISCO



Strengthened
collaboration between
ECPGR members/
institutes



**Expected
results**



Benefits of EUGrainLeg

- Improved collaboration among countries and GL WG members;
- Improved sharing of knowledge and information.
- Facilitated access to all the germplasm included in AEGIS;
- Positive impact on
 - quality standards for conservation across Europe;
 - efficient conservation activities;
 - more effective regeneration;
 - linkages between *ex situ* and *in situ* conservation as well as linkages with users;

**THANK YOU VERY
MUCH FOR YOUR
ATTENTION!**

**[http://www.ecpgr.cgiar.org/
working-groups/grain-legumes/](http://www.ecpgr.cgiar.org/working-groups/grain-legumes/)**

