FOSTERING THE NEED OF IMPLEMENTATION OF THE ECPGR EUROPEAN EVALUATION NETWORK (EVA) ON GRAIN LEGUMES

Creola BREZEANU

Vegetable Research and Development Station, Bacau, Romania

ForEVA – Meeting 10-11 October 2023, Bucharest, Romania

ForEVA preparatory action towards the establishment of an EVA-legume network

Selection of species and traits to be proposed to EVA network

Identification and selection of partners and stakeholders

Duration

March 1st 2023 – 30th April 2024

Parteners

21 Partners

Funding

€

Multi crops

Grain legumes

Stakeholders

Inform - Consult - Involve - Collaborate

Functional frame for PPP

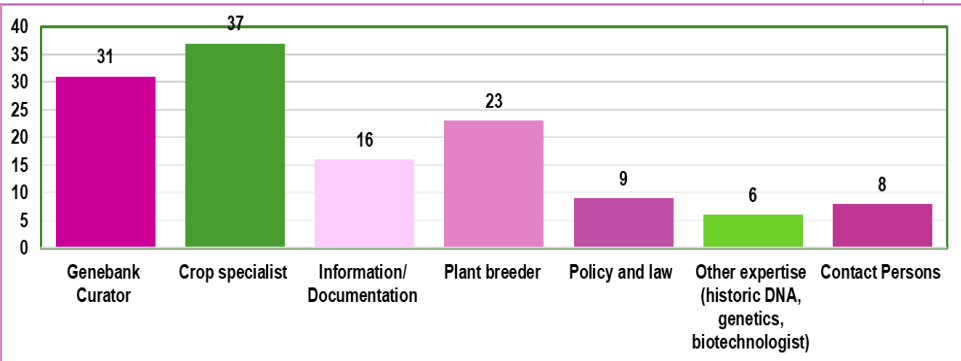**Speeding up the breeding gains the access and sustainable use of GrainLeg GenRes**

Grain Legumes WG

Crop Working Groups
- Allium
- Avena
- Barley
- Beta
- Brassica
- Cucurbits
- Fibre Crops (Flax and Hemp)
- Forages
- Grain Legumes

- Leafy Vegetables
- Malus/Pyrus
- Medicinal and Aromatic Plants
- Potato
- Prunus
- Solanaceae
- Umbellifer Crops
- Vitis
- Wheat

Thematic Working Groups
- Wild Species Conservation in Genetic Reserves
- On-farm Conservation and Management
- Documentation and Information

Bar chart categories:
- Genebank Curator: 31
- Crop specialist: 37
- Information/Documentation: 16
- Plant breeder: 23
- Policy and law: 9
- Other expertise (historic DNA, genetics, biotechnologist): 6
- Contact Persons: 8

101 — ECPGR Grain Legumes Working Group Members

39 — Participant countries

2 — Ongoing projects

2 — Finalized projects

Country bar chart:
- United Kingdom: 5
- Ukraine: 1
- Turkey: 1
- Switzerland: 4
- Sweden: 7
- Spain: 8
- Slovenia: 3
- Slovakia: 1
- Serbia: 3
- Russian Federation: 1
- Romania: 8
- Portugal: 2
- Poland: 2
- Norway: 1
- North Macedonia: 1
- Netherlands: 1
- Malta: 1
- Latvia: 3
- Italy: 4
- Ireland: 1
- Hungary: 3
- Greece: 8
- Germany: 4
- Georgia: 1
- France: 2
- Finland: 1
- Estonia: 3
- Denmark: 1
- Czech Republic: 2
- Cyprus: 2
- Croatia: 1
- Bulgaria: 1
- Bosnia and Herzegovina: 1
- Belgium: 2
- Belarus: 7
- Azerbaijan: 1
- Austria: 1
- Armenia: 1
- Albania: 1

Bosnia and Herzegovina, Bulgaria, Estonia, France, Georgia, Germany, Greece, **Ireland**, Italy, Latvia, Portugal, Romania, Serbia, **Slovakia**, Slovenia, Spain, Sweden, Switzerland, **United Kingdom**

Hexagon labels: Vigna, Lathyrus, Glycine, Vicia faba, Lens, Cicer, Arachis, Lupinus, Phaseolus, Pisum

for EVA

ECPGR

Grain Legumes WG mission and initiavites

COMMUNICATION AND DISSEMINATION

Chittaranjan Kole *Editor*

Genomic Designing for Biotic Stress Resistant Pulse Crops

Springer

Vegetable Research and Development Station Bacău

ECPGR Grain Legumes Working Group

World Pulses Day
"Pulses for a Sustainable Future"

Pulses are suitable to multiple cropping systems
Pulses increase the diversity of diets

We have the pleasure to invite you to join our VIRTUAL EVENT on February 10th 2023.

https://us06web.zoom.us/j/83020077715?pwd=U1hiRU95c0VKekZ5djJjbk1McjAyZz09

Pulses improve soil biodiversity and fertility
Pulses enable consumers to access nutritious foods

FAO Pulses Day | ECPGR

Focal point for GL GR issues

Network of interest for GL links with other organizations

Fostering links between research, breeding communities and other users

Focal point for emergency actions and resolution of issues for GL GR in Europe

GROUP MISSION

GRANT SCHEME - SIXTH CALL - PHASE X

	Acronym	Working Group(s)	Activity Coordinator	Date of approval	Proposal	Budget table	Budget in Euro	Letter of award
1	EURO-POTATOES	Potato	Veli-Matti Rokka	14 Feb 2023	PDF (520,9 KB)	PDF (521,1 KB)	€ 29,999.99	PDF (288,8 KB)
2	ExploDiv	Grain Legumes	Creola Brezeanu	1 Dec 2022	PDF (602,7 KB)	PDF (160,7 KB)	€ 28,600	PDF (250,8 KB)
3	forEVA	Grain Legumes	Creola Brezeanu	1 Dec 2022	PDF (873,8 KB)	PDF (114,7 KB)	€ 16,500	PDF (249,9 KB)
4	Garli-CCS	*Allium; Cryopreservation; Documentation & Information*	Manuela Nagel	1 Dec 2022	PDF (710,8 KB)	PDF (199,6 KB)	€ 59,997	PDF (300,5 KB)
5	INWHEATORY	On-farm Conservation & Management; Wheat	Lorenzo Raggi	1 Dec 2022	PDF (620,9 KB)	PDF (18,2 KB)	€ 30,250	PDF (324,3 KB)
6	Sylvestris	*Vitis*	Georgios Merkouropoulos	6 Dec 2022	PDF (442,3 KB)	PDF (197,2 KB)	€ 25,520	PDF (739,2 KB)
						Total	€ 190,866.99	

NETWORKING IN FRAME OF DIFFRENT PROGRAMS AND PROJECTS

INCREASE

VRDS, KIS, IPK, INIA

ECPGR

# Background the context behind the choice of this Activity

EVA
European Evaluation Network

the need of breeding resources and knowledge; gaps (low agronomic expertise, insufficient cooperation between stakeholders, non-competitive management of PGR), poor adaptation of protein plant cultivars in Europe

data, knowledge, materials, practices, that need to be largely implemented

Activity: status, challenge, initiative, justification
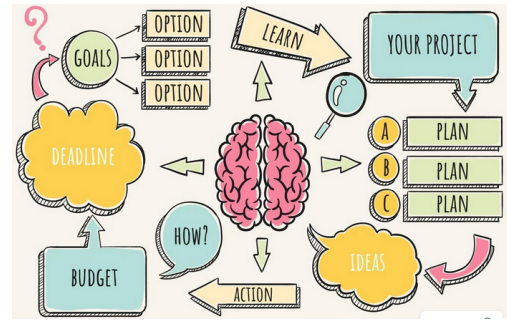
STATUS

- GB materials
- Advanced materials and available data from different projects
- Imperative need of integration and widely sharing to stakeholders along European agri-food chain.

Need of integration and widely sharing to stakeholders in European agri-food chain

CHALLENGE

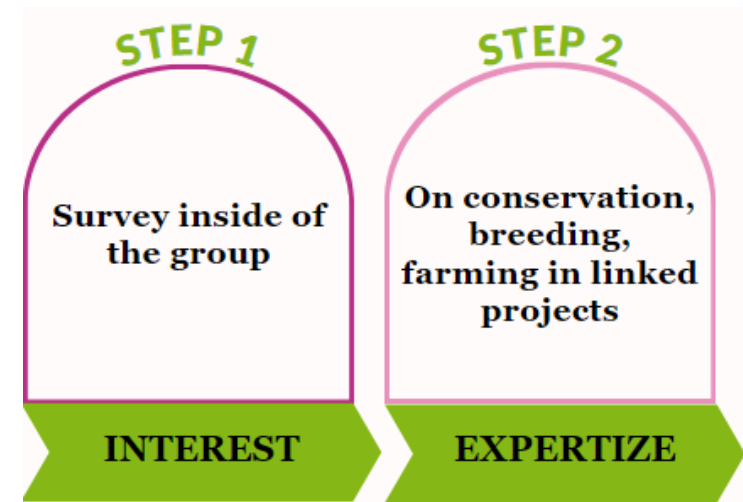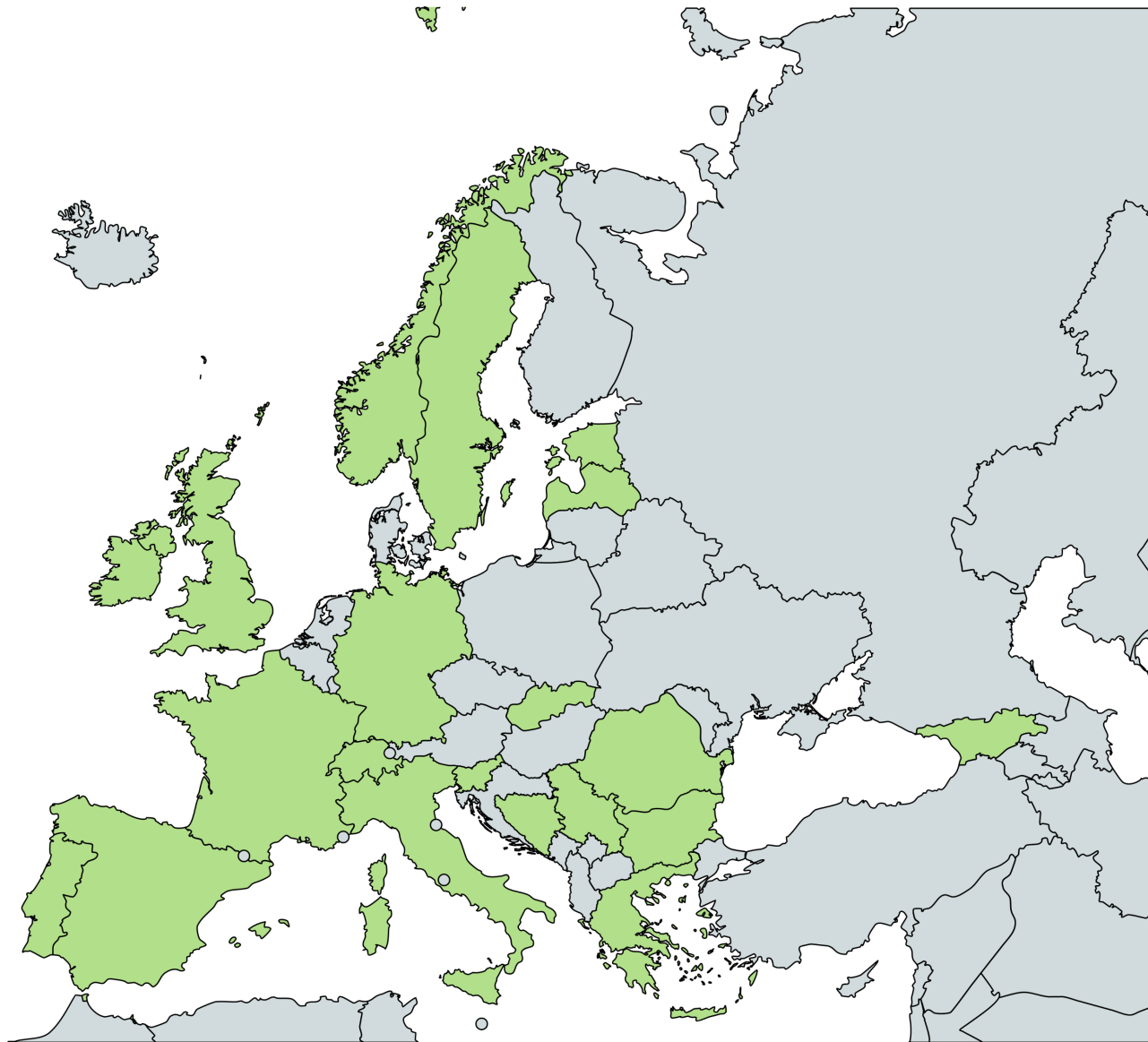- optimization of the exploitation of GenRes in legumes breeding

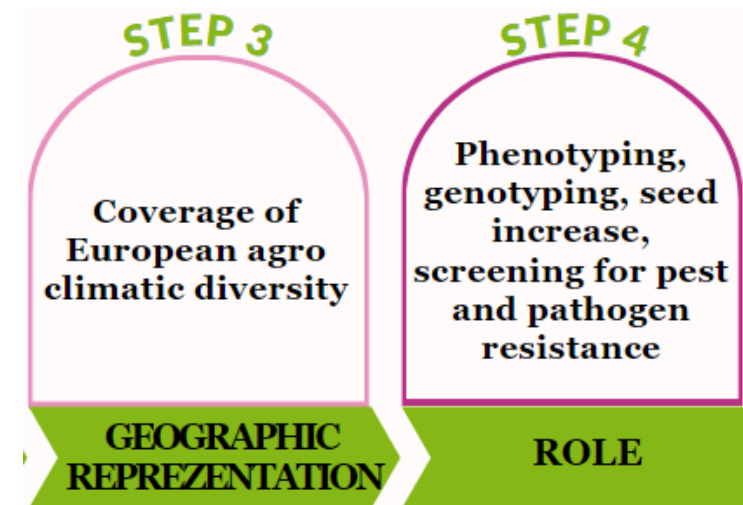Agronomic performance and sustainability

INITIATIVE

- to speed up the breeding gains
- Multi-actor approach

EVA-legume network

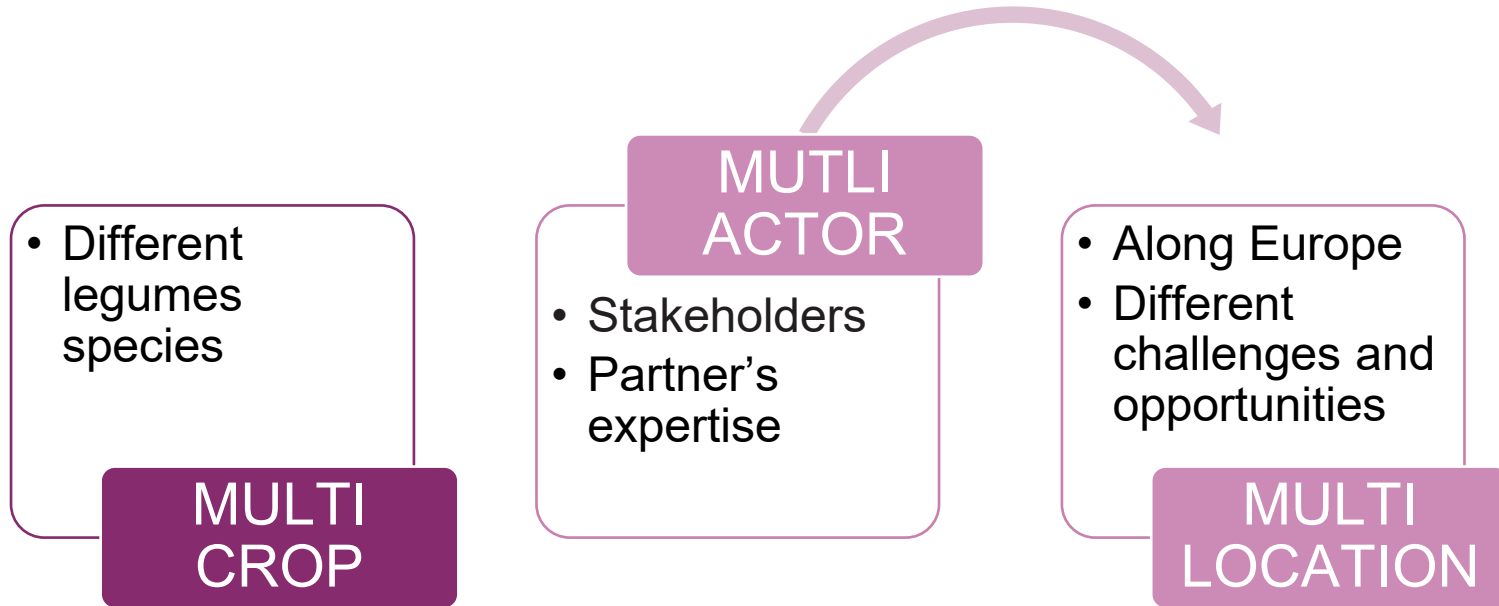# Rationale for the choice of partners

STEP 1

Survey inside of the group

INTEREST

STEP 2

On conservation, breeding, farming in linked projects

EXPERTIZE

PARTNERS SELECTION FOREVA GRAIN LEGUMES

STEP 3

Coverage of European agro climatic diversity

GEOGRAPHIC REPREZENTATION

STEP 4

Phenotyping, genotyping, seed increase, screening for pest and pathogen resistance

ROLE

Methodology or Approach:

MULTI CROP
- Different legumes species

MUTLI ACTOR
- Stakeholders
- Partner's expertise

MULTI LOCATION
- Along Europe
- Different challenges and opportunities

MULTI-LEVELED IMPACT

Breeding

Conservation, evaluation, use

Benefits along agri-food chain

ForEVA workplan

ACTION 1.
Survey for PGR national inventory and networking

D2.1
Set of EVA materials

D2.2
Sets of traits prioritized

D2.3
Sets of harmonized protocols

D1.1
List of GrainLeg GenRes proposed for EVA network

D1.2
List of stakeholders that intend to support the EVA implementation (letters of commitment)

ACTION 2.
Development of PGR collections, traits selection, protocols for investigation, EVA ID implementation

D4.1
Plan and workflow to ensure necessities in terms of seeds

ACTION 3.
Design of experiments, plans for data collection and integration

D. 3.1
Comprehensive list of locations and experiments
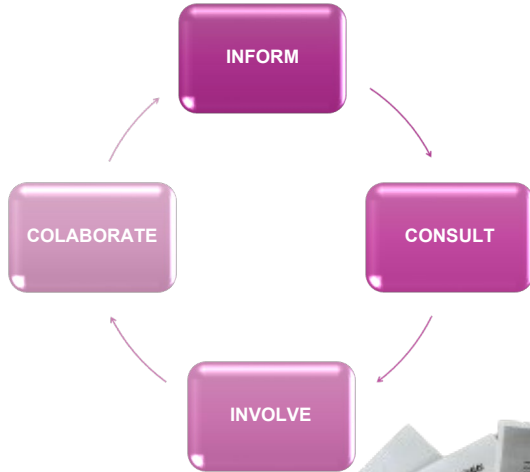
ACTION 4.
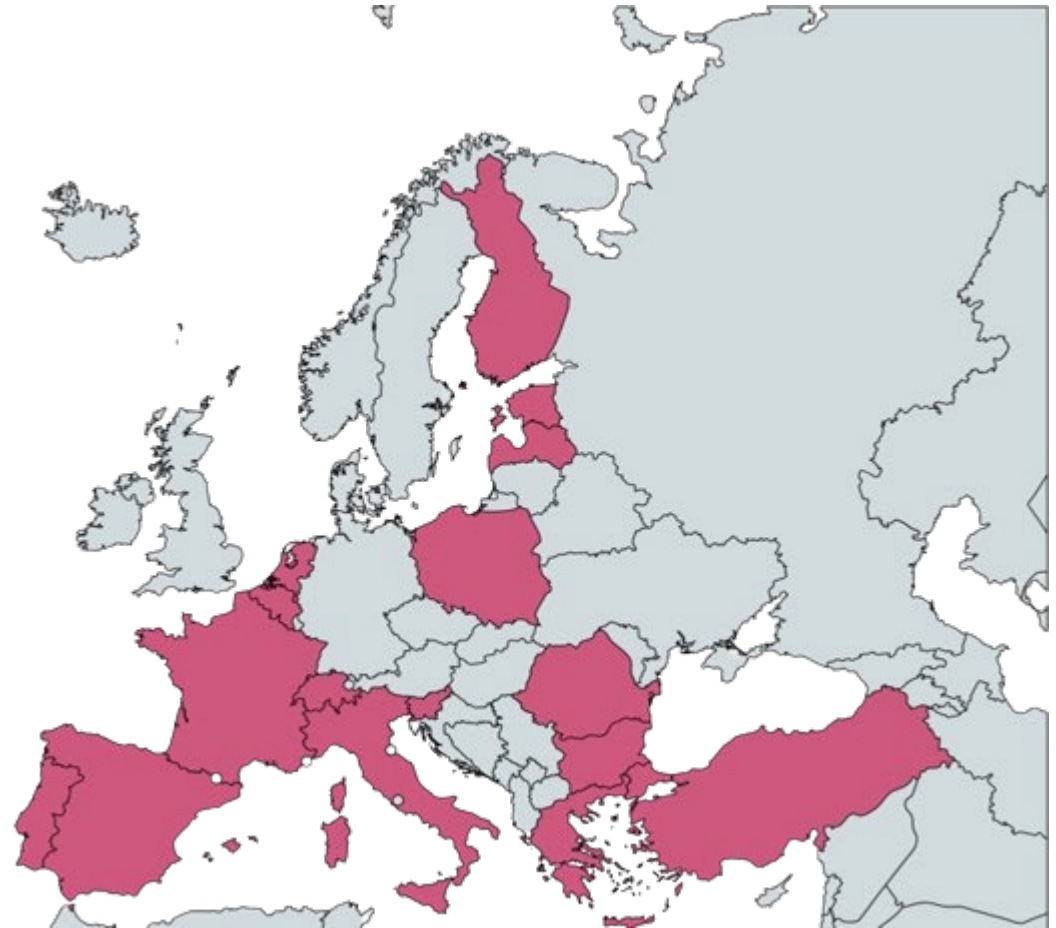Plans for seed exchange and distribution

ACTION 5.
Management Dissemination Communication Stakeholder engagement

Stakeholder's engagement

INFORM

COLABORATE

CONSULT

INVOLVE
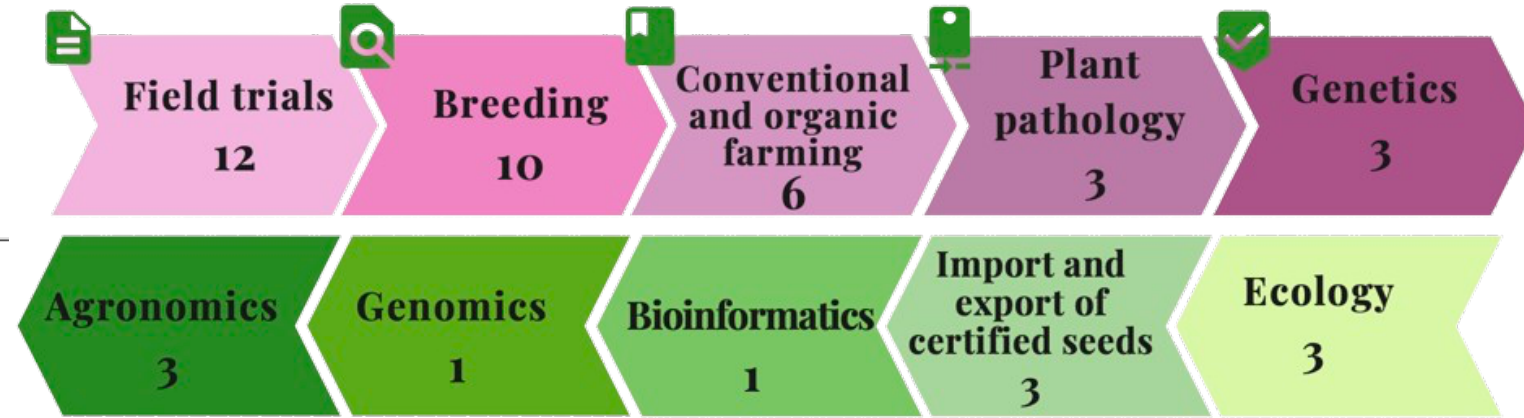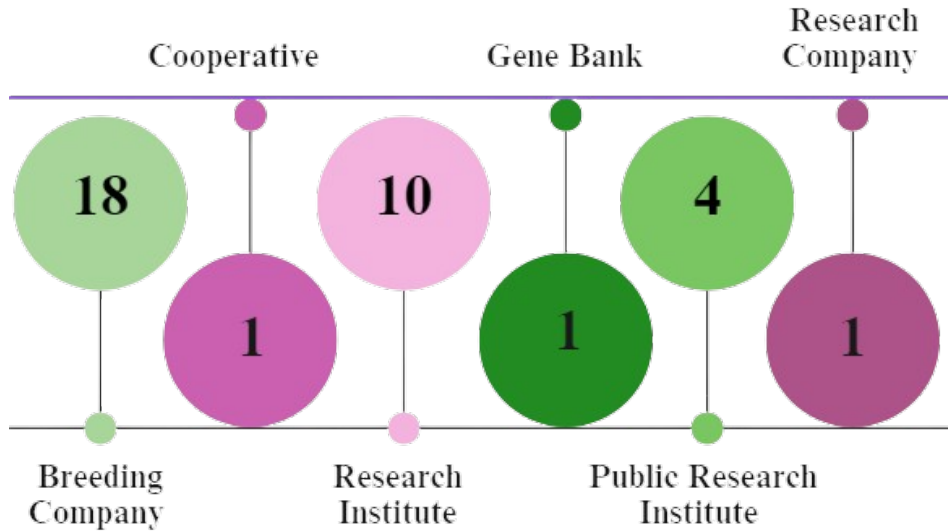
1. Supportive role in terms of straighten and consolidate the importance, the benefits and the impact of EVA.

2. Identify the needs, challenges and opportunities at different segments of Agri food chin.

Stakeholder's engagement

Cooperative — 1
Gene Bank — 4
Research Company — 1
Breeding Company — 18
Research Institute — 10
Public Research Institute — 1

Field trials 12
Breeding 10
Conventional and organic farming 6
Plant pathology 3
Genetics 3
Agronomics 3
Genomics 1
Bioinformatics 1
Import and export of certified seeds 3
Ecology 3

CROPS

Chickpea - 6
Lentil - 8
Bean - 19
Grains - 3
Soy bean - 4
Faba bean - 8
Lupin - 5
Pea - 18
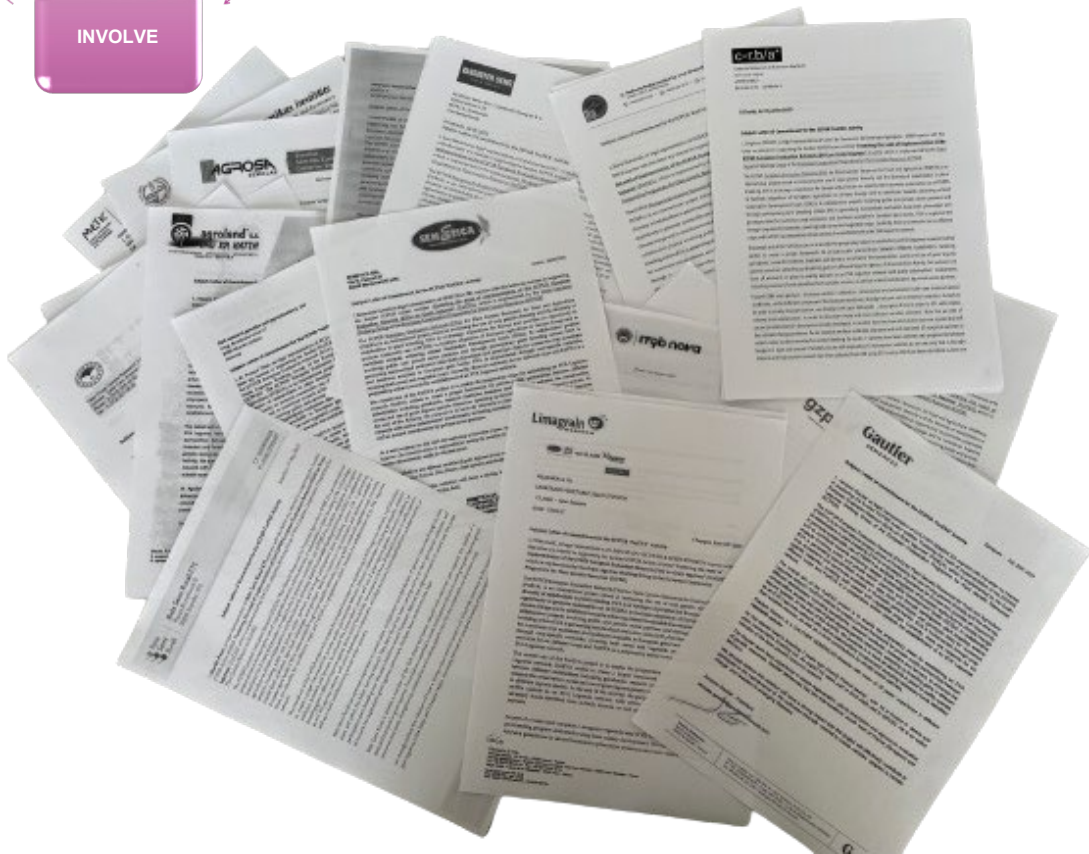
Why to join ForEVA

Partners are experienced and have background in

- **management of significant volumes** of phenotyping and genotyping data for a large variety of species as bean, chickpea, lentil, pea, lathyrus, lupinus and fava (INCREASE, BRESOV, CiLaKlima, PreLuteus, SPITFIRE) – this will have a positive impact on development of Actions 1, 2, 4.

- **screening for different traits** with breeding value (BRESOV, CiLaKlima, PreLuteus, SPITFIRE) related to performance in low input conditions and different tolerance and resistance – linked to Action 1, 2, 3

- expertise and background to **support and to improve diversity** (CROPDIVA, BRESOV, EUCLEG, INCREASE) – linked to Actions 2, 3, 4, 5.

- practices to stimulate **the use and the multiple benefits** of GrainLeg in agri-food chains (LEGATO, EUCLEG, BRESOV, INCREASE) – linked to Action 1 and Action 5.

- **capacity for networking** involving large variety of stakeholders (EUCLEG, INCREASE).

Expected output related ECPGR Objectives

ForEva OUTPUT
- Operational EVA legumes network
- Frame for PPP

Output 5.1 European Evaluation Network for PGRFA developed

ForEVA OUTPUT
- Species and traits selection
- Location, resources for involvement

Output 4.3 Good practices for on-farm management and conservation and adding value promoted

ForEVA OUTPUT
- Bridging projects
- Financial resources identified

Output 4.4 Definition of Most Appropriate Areas (MAPAs) sites of onfarm cultivated plant diversity discussed and implemented

ForEVA OUTPUT
- Selected traits
- Harmonized protocols

Output 2.4 Users' expectations explored and functionalities of EURISCO increased