



EVA
European Evaluation Network

MAKING USE OF GENETIC RESOURCES – EUROPEAN EVALUATION NETWORKS EXPLORING DIVERSITY AVAILABLE IN EUROPEAN GENE BANKS

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ECPGR

ISTA Seminar

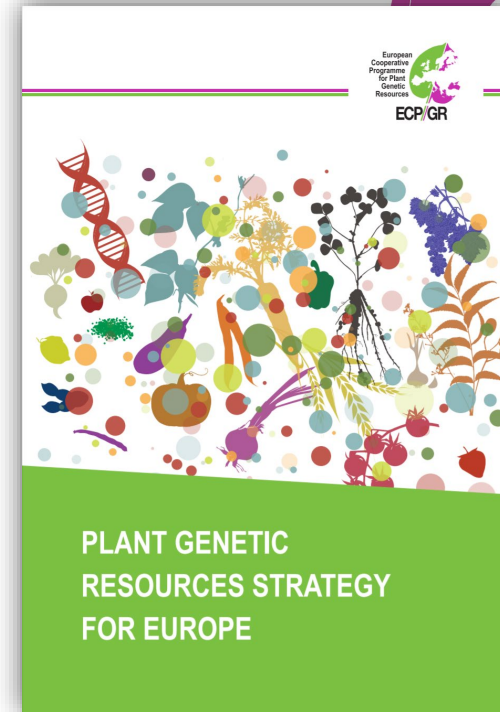
Verona, 29 May 2023



The European Cooperative Programme for Plant Genetic Resources

ECPGR is a collaborative Programme among most European countries since 1980, aiming at ensuring the **long-term conservation** and facilitating the **sustainable utilization** of plant genetic resources in Europe

The **ECPGR PGR strategy for Europe** outlines goals and necessary actions and step changes needed for the next decade.



X (Letter of agreement signed)
 X (Country did not sign Letter of Agreement, but is paying contributions)
 X

ECPGR main products



European Search Catalogue for Plant Genetic Resources



A European Genebank Integrated System

EVA

European Evaluation Network

European Evaluation Network for PGRFA



Genetic
Resources

Open Access journal - www.genresj.org

PGRFA diversity in European genebanks

2.085.448	accessions
43	national inventories
407	holding institutes
6.731	different genera
45.192	species
429.355	MLS accessions
70.426	AEGIS accessions

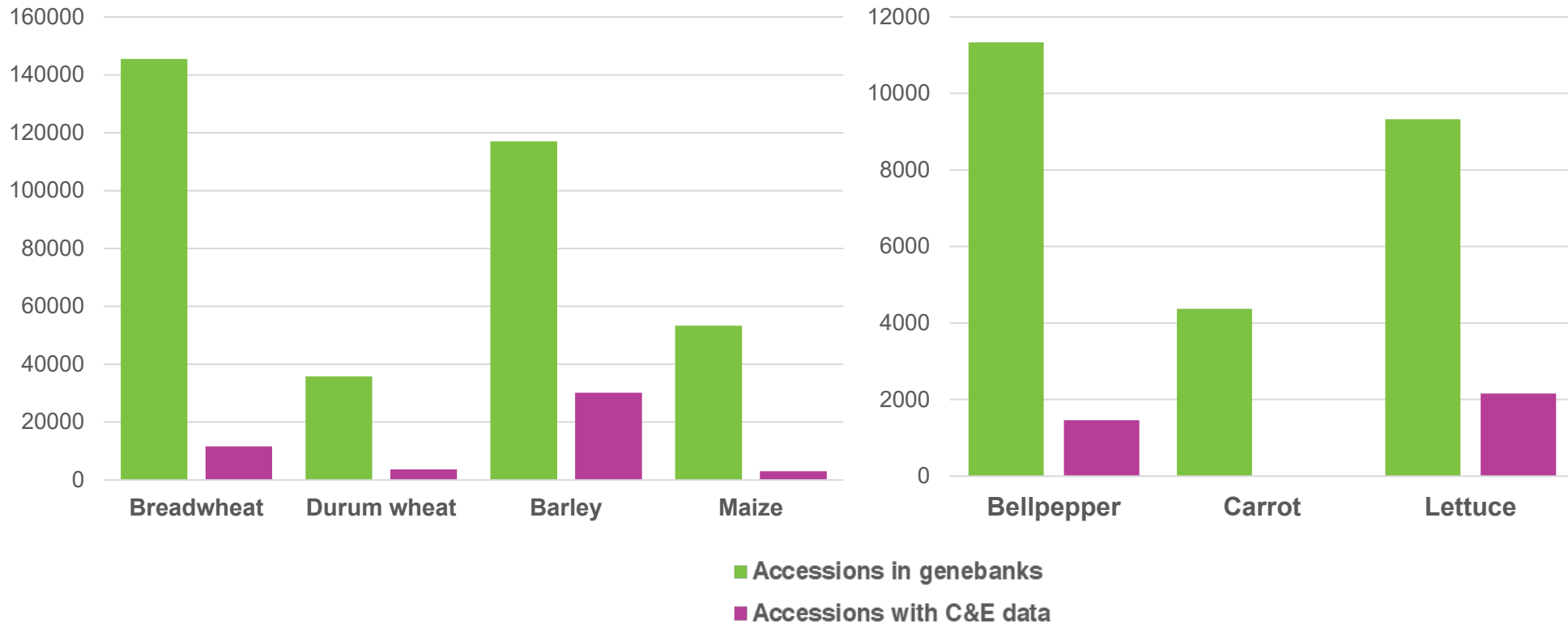


<http://eurisco.ecpgr.org>



- Decentralized **European Collection** of unique germplasm
- Availability through **SMTA**, including non-Annex I material
- **Quality System**: agreed standards, peer review and capacity building

Limited C&E Data for EVA Crops in EURISCO



Promoting Use of PGRFA diversity through evaluations

EVA

European Evaluation Network



European Evaluation Network for PGRFA (EVA)

EVA

European Evaluation Network

Long-term Goals of EVA

- Increase **knowledge** on germplasm held in European genebanks
- Improve passport information in **EURISCO** and add C&E data
- Promote the **use of genebank germplasm** in breeding and cultivation
- Widen the stakeholders involved in using PGRFA and foster cooperation between public and private sectors through creation of **public-private partnerships**

<https://www.ecpgr.cgiar.org/european-evaluation-network-eva>



PUBLIC-PRIVATE PARTNERSHIPS

Increasing ECPGR knowledge and opportunities on public-private partnerships for the use of plant genetic resources for food and agriculture.

The EVA Framework

PRIVATE PUBLIC PARTNERSHIPS

Increasing ECPGR knowledge and opportunities on Private Public Partnerships for the use of Plant Genetic Resources for Food and Agriculture

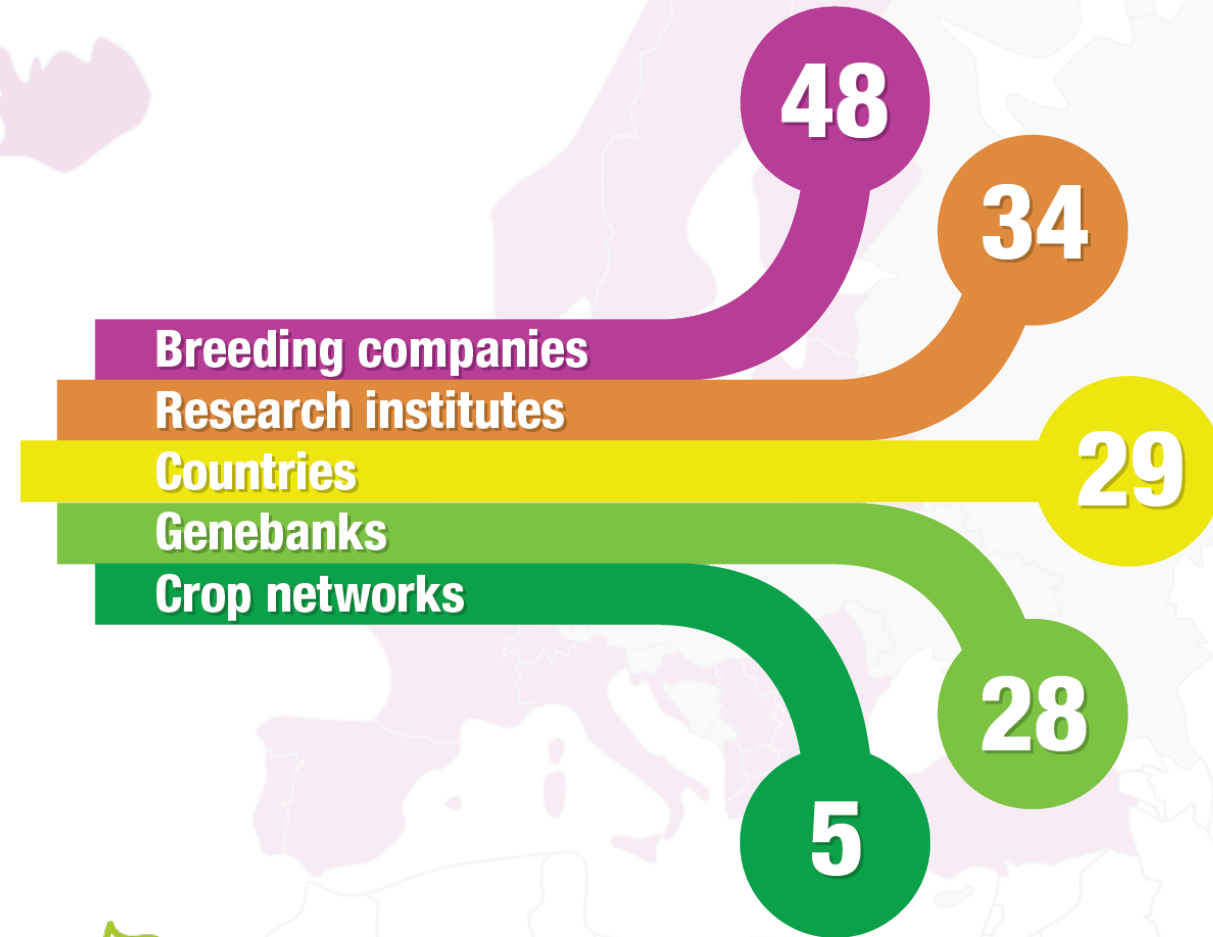


Joint work on pre-competitive level provides benefits to all partners:

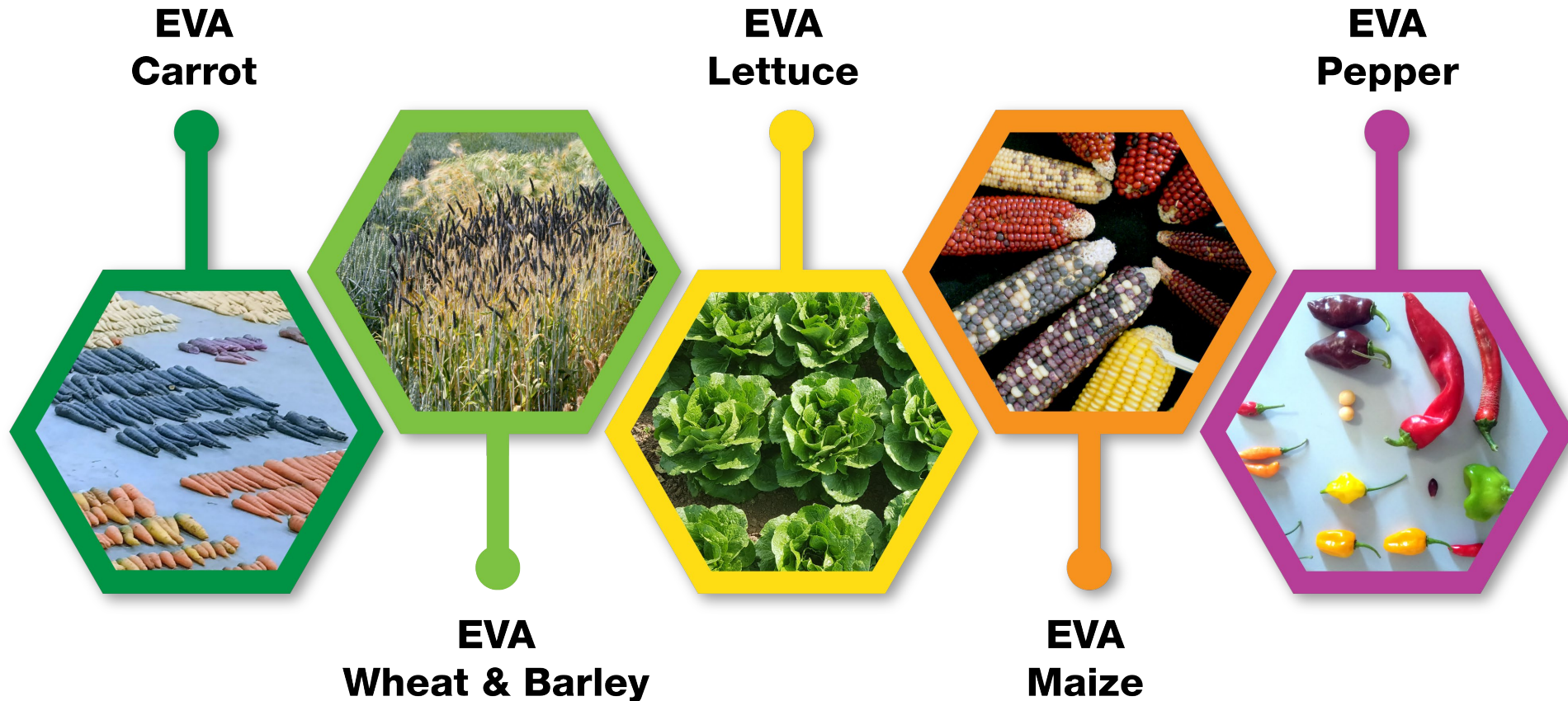
- Shared expertise and knowledge
- Large phenotypic datasets from multilocation trials
- Data embargo as incentive for private partners to contribute in-kind
- Results and materials will be publicly available (through EURISCO and SMTA)

More than 90 EVA partners

- **Public partners**
 - Genebanks
 - Universities and research institutes
- **Private partners**
 - Multinational breeding companies
 - SME breeding companies
 - Organic breeding companies
 - Breeding and farming cooperatives

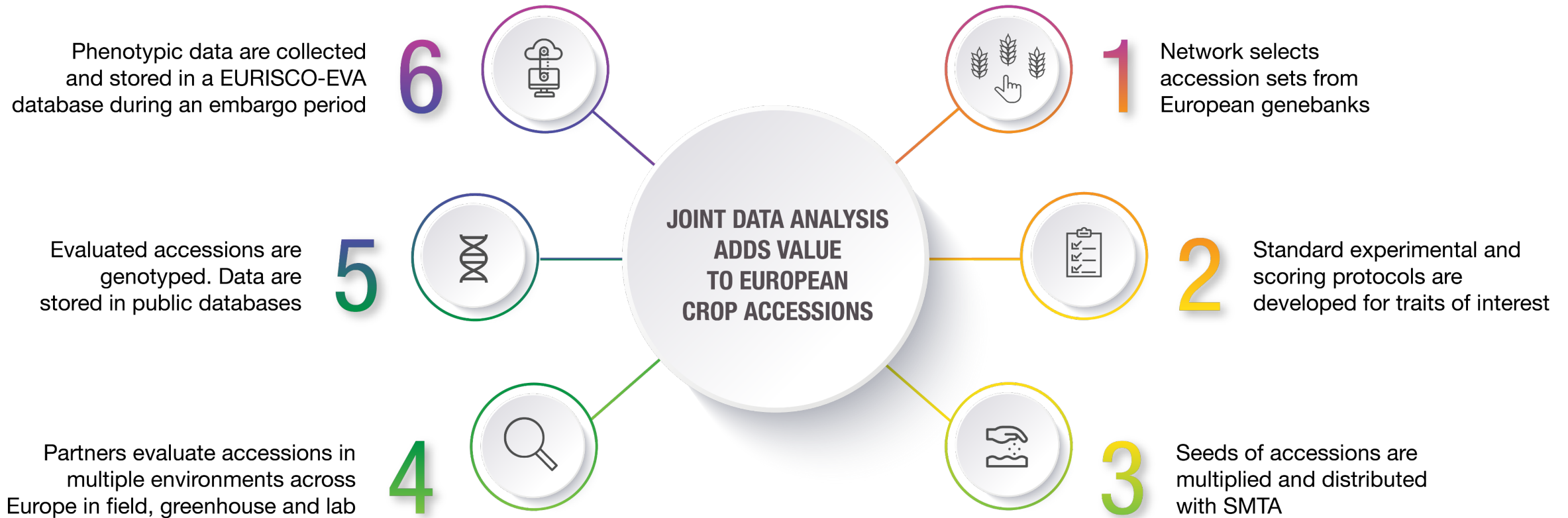


Five crop-specific EVA networks



EVA Legumes is in preparation through Grain Legumes WG activity **ForEVA**

HOW THE EVA CROP NETWORKS OPERATE



Cooperation agreement ensures privileged access to data, while material is exchanged through SMTA and can be used for further development and eventual commercial use

109 Evaluation trial sites across Europe



EVA wheat trial 2021, BASF (V. Spamer)



EVA lettuce trial 2022 *Sativa* Rheinau (C. Aichholz)



EVA pepper trial 2021, Semillas Fito (M. Fernandez)



EVA carrot trial 2021 Institut Agro Angers (E. Geoffriau)

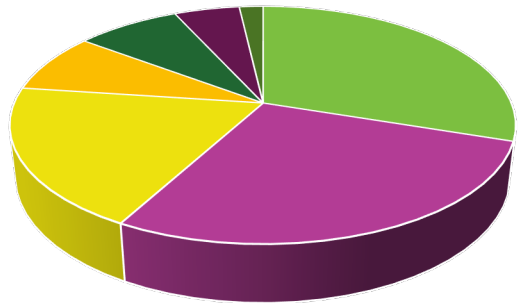


EVA maize trial 2021, CREA-CI (C. Balconi)



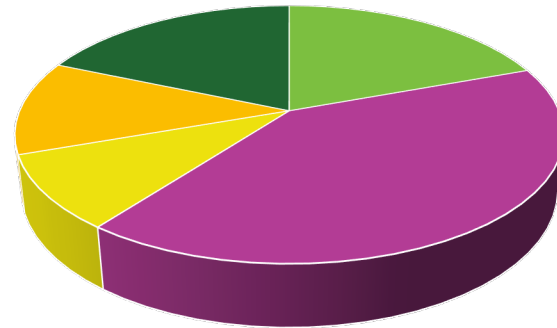
Output of EVA networks

> 3,600 EVA accessions



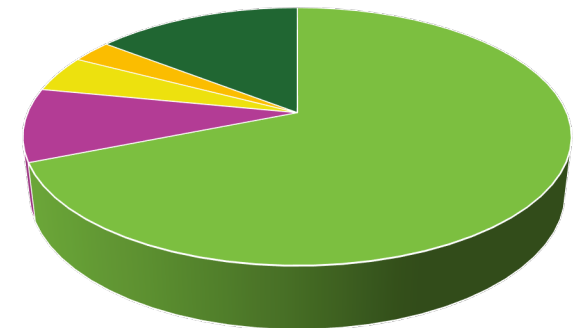
- barley
- maize
- lettuce
- carrot
- wheat
- durum wheat
- pepper

> 230 Traits evaluated



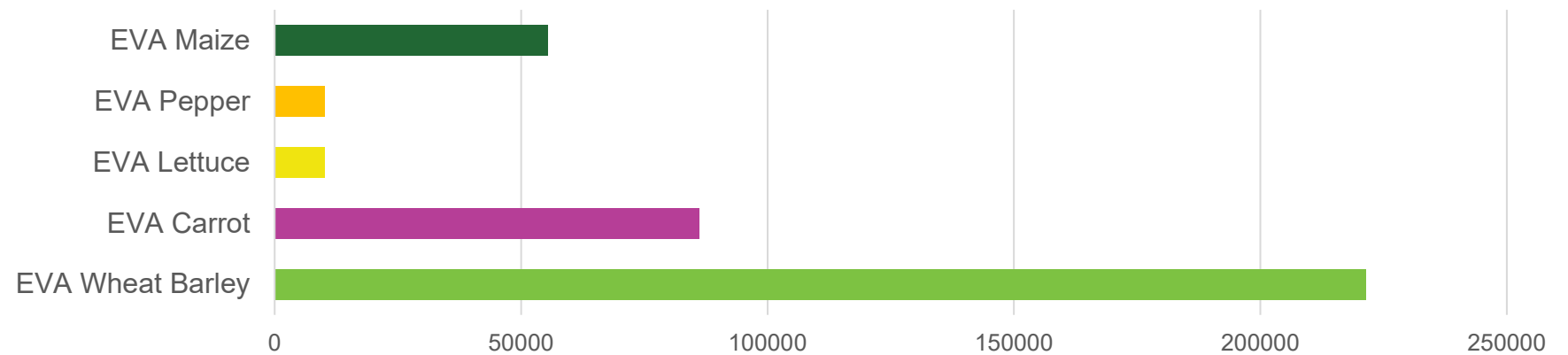
- EVA Wheat Barley
- EVA Lettuce
- EVA Maize
- EVA Carrot
- EVA Pepper

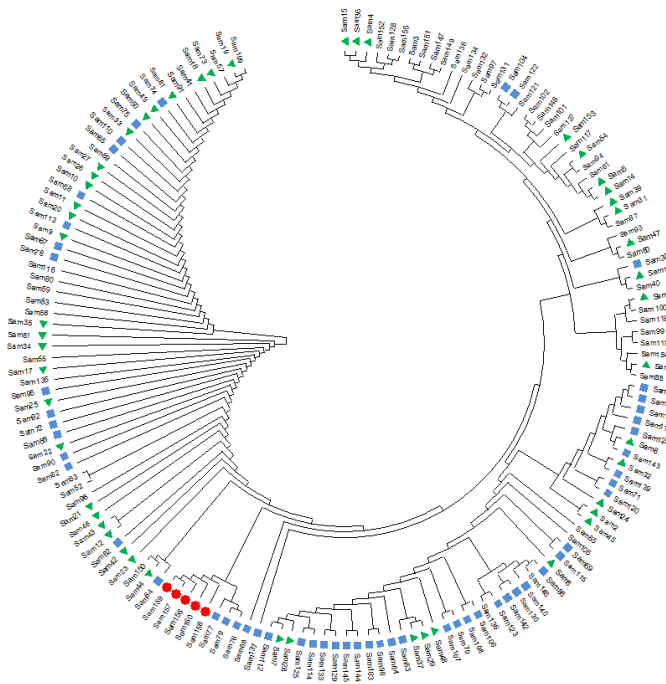
283 EVA trials



- EVA Wheat Barley
- EVA Lettuce
- EVA Maize
- EVA Carrot
- EVA Pepper

> 380.000 evaluation data points

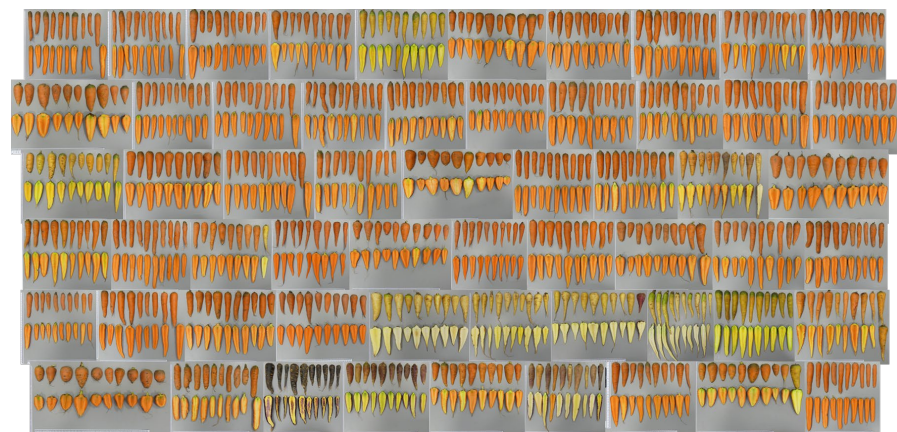




P. Tripodi, CREA, Italy

- Genetic diversity of 160 *Lactuca* accessions evaluated in **EVA Lettuce**

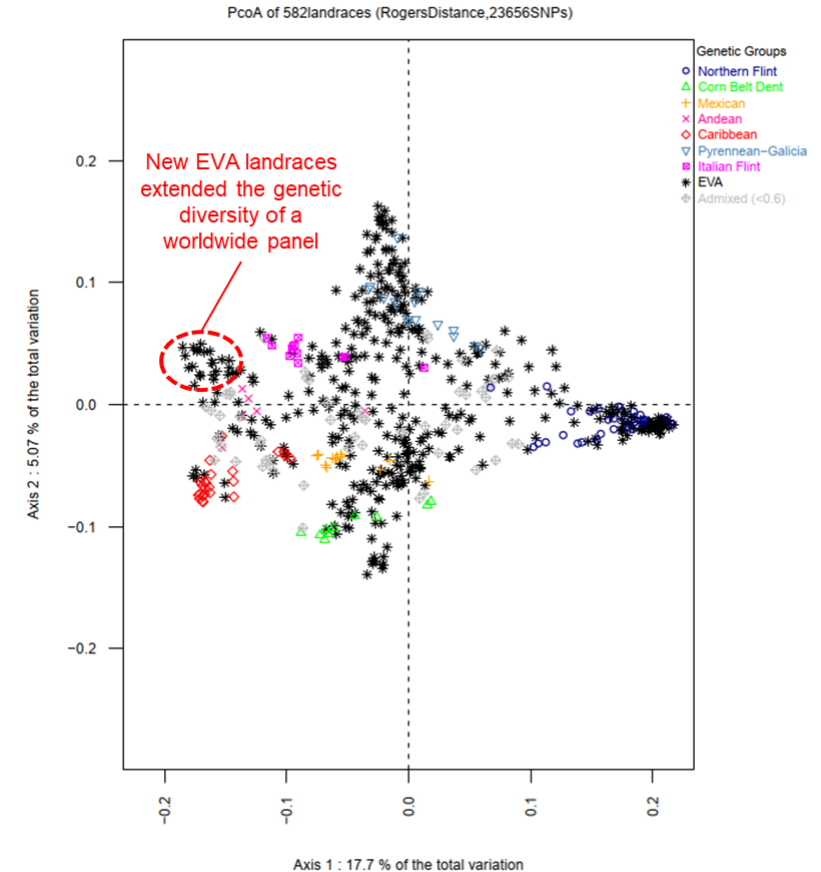
EVA generating knowledge on European PGRFA



- Phenotypic diversity of 60 accessions evaluated in **EVA Carrot**

Photos: E. Geoffriau, Institut Agro Rennes-Angers, France

- Genetic diversity of 416 **EVA maize** landraces



D. Madur, INRAE, France

Outlook

- Current project funded through 2024
- Dissemination and exploitation of results in publications and breeding
- C&E data inserted in EURISCO
- Improved and accessible genebank inventories
- Continuation of EVA networks through new projects
- Expansion of EVA networks to new crops and stakeholders



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THANK YOU