



cousin

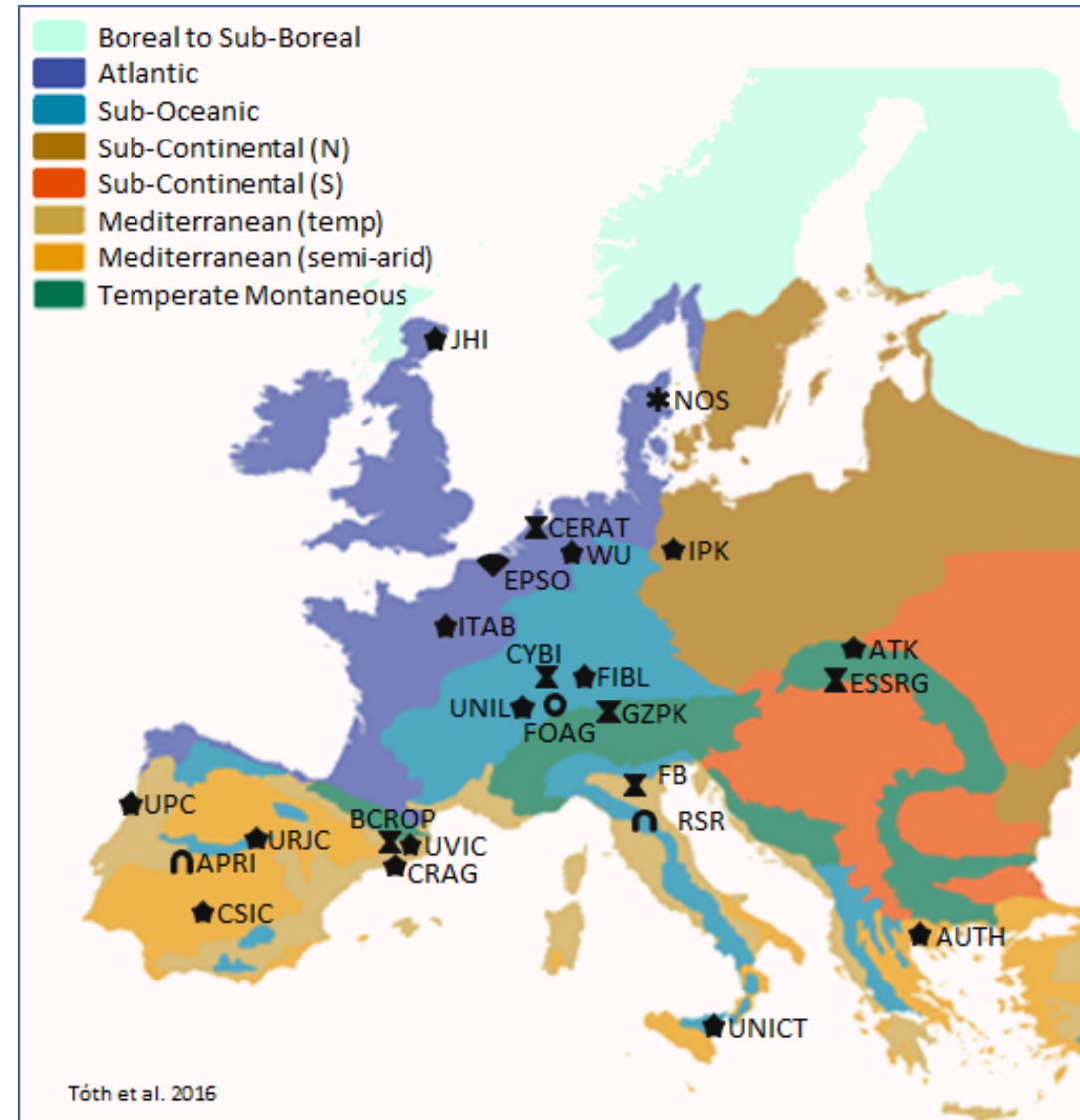
Crop Cousins, promise for the future

CROP WILD RELATIVES UTILIZATION AND CONSERVATION FOR SUSTAINABLE AGRICULTURE

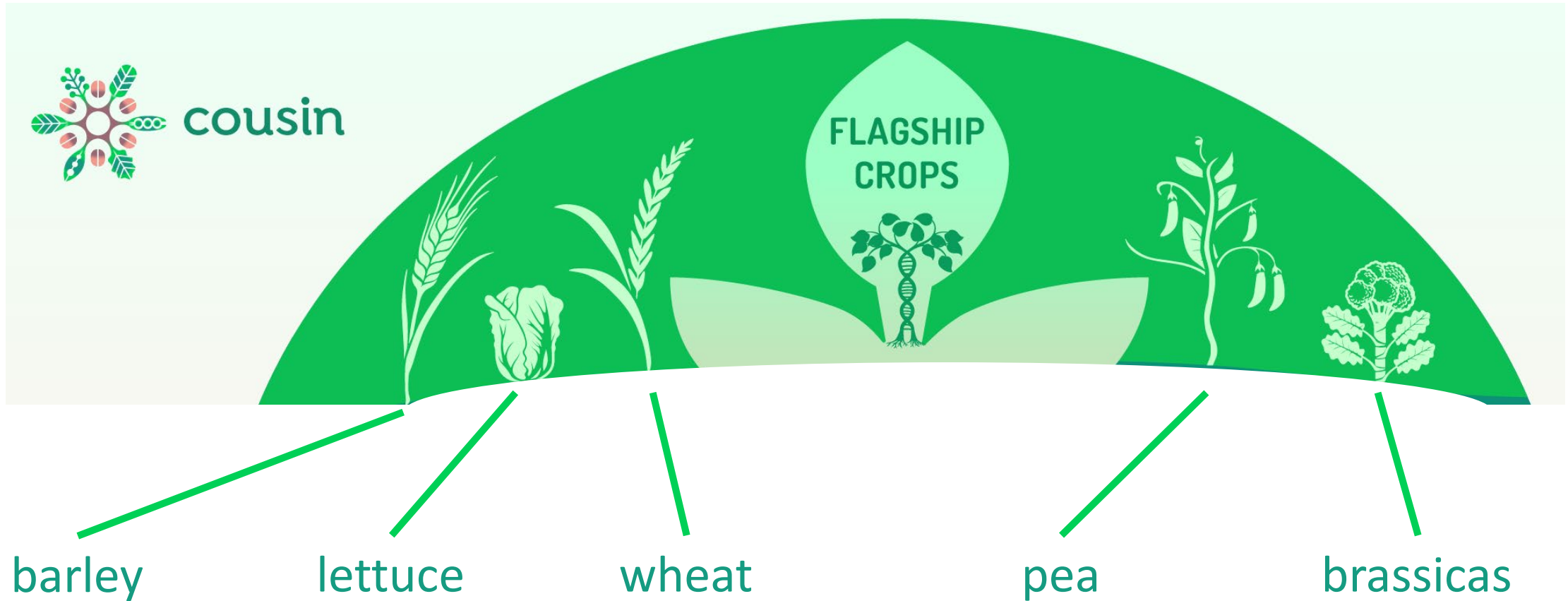
- Call: HORIZON-CL6-2023-BIODIV-01-13 — Crop wild relatives for sustainable agriculture
- Research and Innovation Action
- Duration: 01/01/2024 – 31/12/2028 (5 years)
- Coordinator: Christian Schöb, University Rey Juan Carlos, Spain
- 25 institutions from the EU, Switzerland and UK

THE CONSORTIUM

- 25 partners
- 14 research institutions
- 5 SMEs
- 3 NGOs
- 1 large Enterprise
- 1 government organisation
- 1 other institution

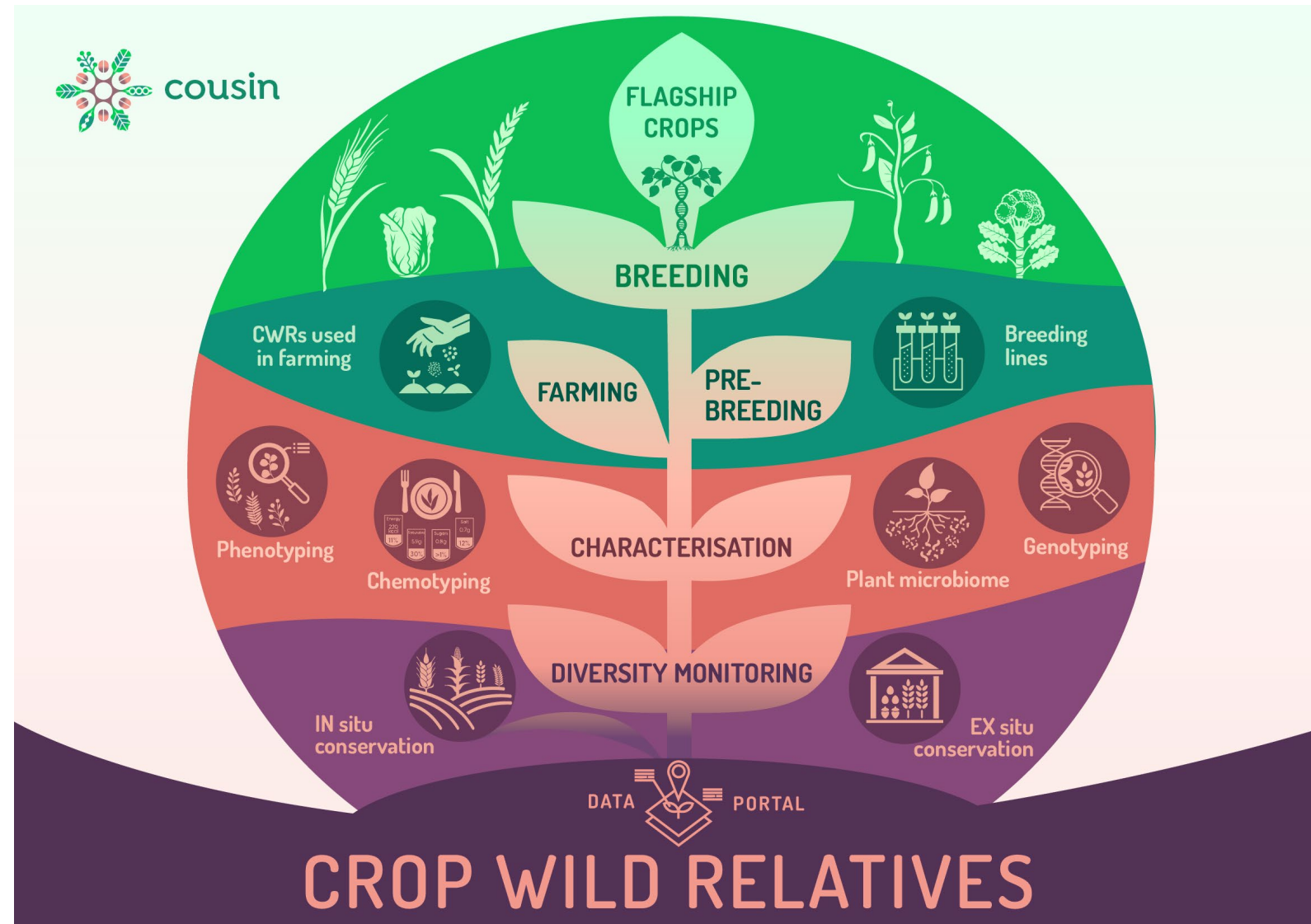


Five Flagship Crops



Four lines of activities

- Data acquisition, management, provisioning, interoperability with other data platforms
- CWR diversity monitoring, including *in situ* and *ex situ* conservation
- CWR characterisation, including phenotyping, chemotyping, plant microbiome, genotyping
- CWR use for farming, pre-breeding and breeding



COUSIN ACTIVITIES

ACTION

Observe & Preserve

Characterize & Collect

Pre-breed

Breed

End-use

9 Steps towards the use of CWRs in agriculture – The COUSIN Readiness Levels

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DEFINITION

01



Crop Wild Relative is IDENTIFIED in vegetation surveys.

CWR is IDENTIFIED IN-SITU with information on the exact location and population size.



02

03



CWR is CHARACTERISED IN-SITU, with information on functional traits and prevailing environmental conditions.

CWR is AVAILABLE EX-SITU in gene banks with corresponding passport data.



04

05



CWR is CHARACTERISED EX-SITU for abiotic and biotic stress tolerance and nutritional properties and other agronomic traits.



06

07



Crosses and backcrosses with selection to create ADVANCED POPULATION.

08



Definition of a novel cultivar (DUS) or organic heterogeneous material (OHM).

09



Registered varieties and OHM are COMMERCIALISED and grown in farmer's fields to produce food and feed.

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Early INTERSPECIFIC CROSSES with CWRs and early selection.



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SCALE

IN-SILICO

IN-SITU

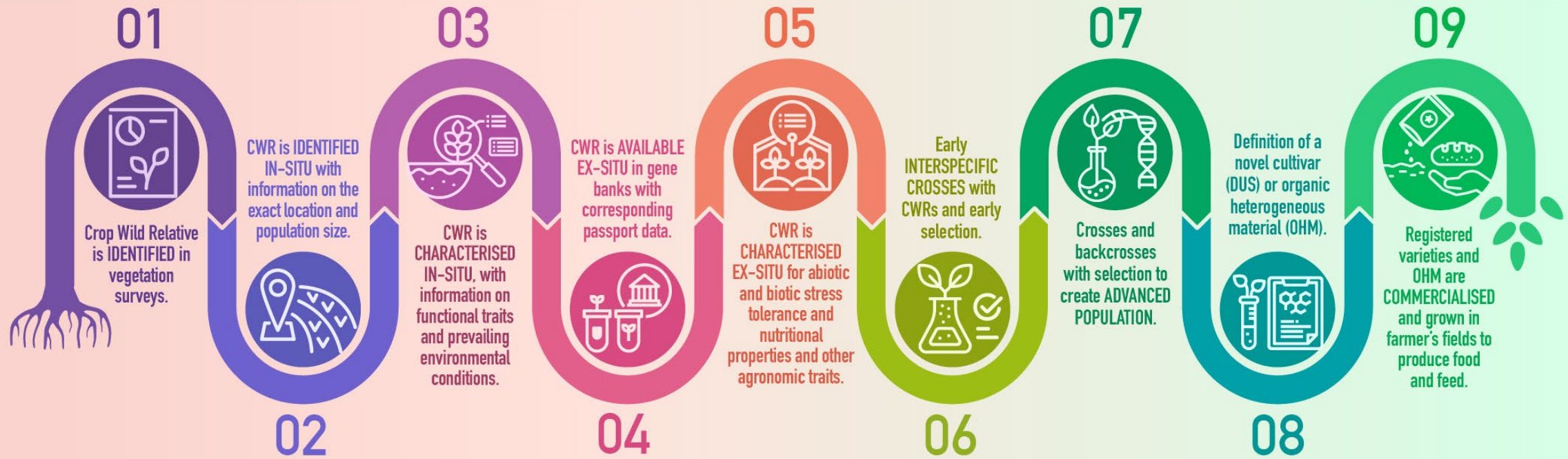
EX-SITU

RELEVANT ENVIRONMENT

OPERATIONAL ENVIRONMENT

Three Pathways to action

DEFINITION



PATHWAYS OF ACTION

From a stakeholder need to a CWR with desired traits

From a CWR with a desired trait to a segregating population

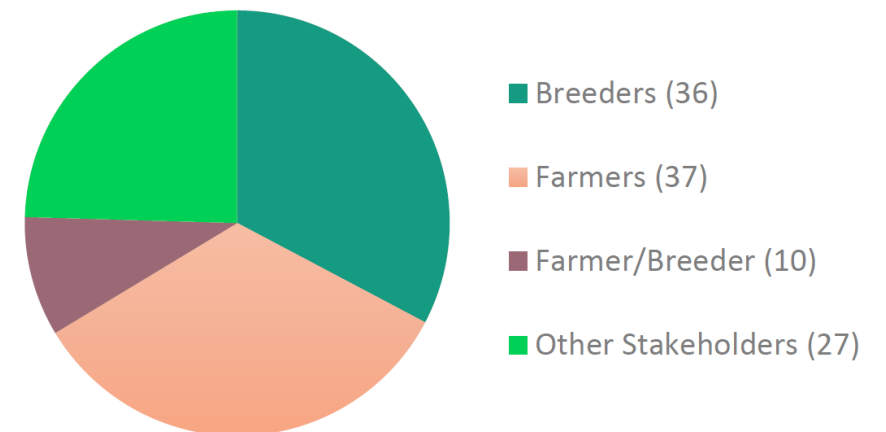
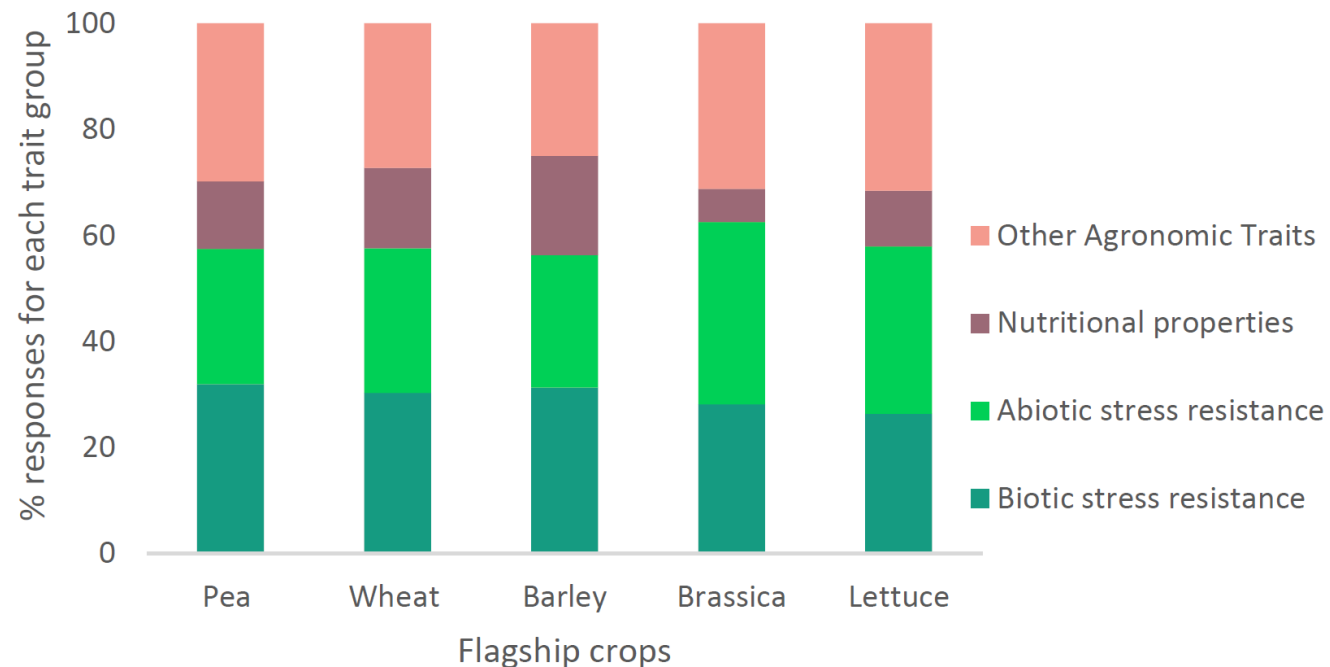
From CWR-derived populations to near-market cultivars.

Three Pathways to action

- Pathways are summarised in the 9 COUSIN Readiness Levels
- Pathways shall demonstrate the value and conservation requirements of CWR
- Ambitious goal
 - Demonstrate the value of CWRs through their use in sustainable agriculture in a five-year project
 - COUSIN partners bring in experiences from many previous projects
 - EC and other funding agencies
 - Directly feed into the activities of COUSIN
- Three complementary pathways to action
 - For each of the five flagship crops
 - Distinct starting and endpoints in the project

COUSIN Multi-actor approach

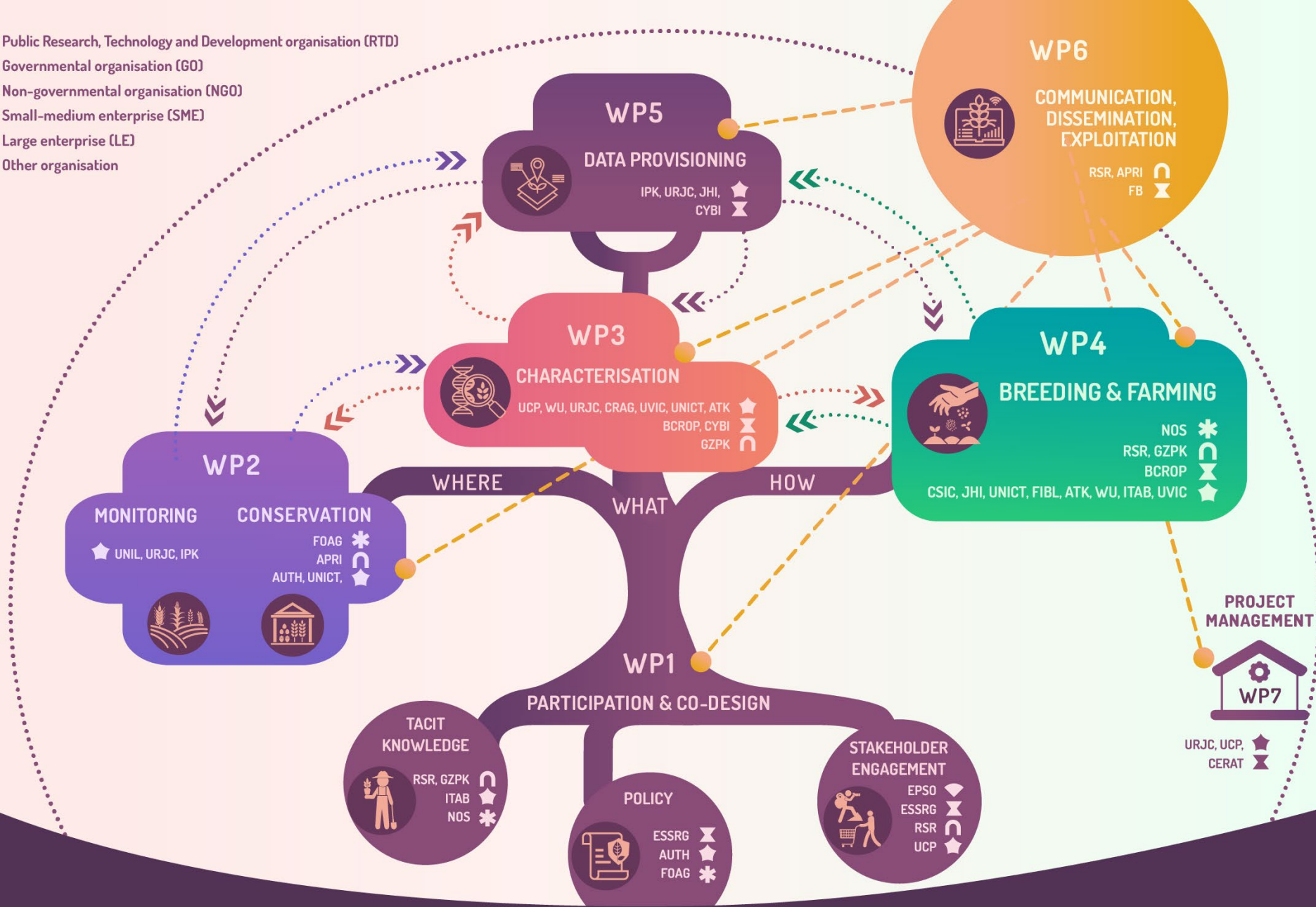
- Results from COUSIN questionnaire
 - Aim: pre-identify priority traits demanded by stakeholders for characterisation of CWRs
 - Implemented in February 2023



Questionnaire Respondents

“other stakeholders” include researchers, chefs, and consumers

- ★ Public Research, Technology and Development organisation (RTD)
- Governmental organisation (GO)
- ∩ Non-governmental organisation (NGO)
- ⌘ Small-medium enterprise (SME)
- * Large enterprise (LE)
- ◆ Other organisation



COUSIN MULTI-ACTOR SETUP

Thank you!



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