



Wheat (*Triticum aestivum*) lead by GZPK

Is the major European and global staple food crop. Still, much of its cropping area is expected to be affected by climate change, emphasizing the need for increased climate resilience.



Barley (*Hordeum vulgare*) lead by JHI

Barley is the cereal with the third highest European production. Crop production is expected to be similarly to wheat affected by climate change, particularly rising temperatures, drought and increased disease pressure.



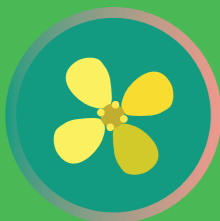
Pea (*Pisum sativum*) lead by NOS

Pea is the major pulse crop in Europe in terms of cropping area and economic importance. It can be a key crop as it makes up for the current lack of local availability of high-quality plant protein, thus limiting long-distance imports from abroad.



Lettuce (*Lactuca sativa*) lead by WUR

Lettuce covers 18.1% of the fresh vegetable production area. Open-field production especially suffers from increased exposure to high temperatures and drought, and limitations regarding N and P fertilisation.



Brassicicas lead by UNICT

There are two important Brassica species cultivated in Europe that constitute the brassica flagship crop: *B. oleracea*, to which belong the most common Brassica vegetable crops, and *B. napus*, a natural hybrid between *B. oleracea* and *B. rapa*, utilized world-wide as an oil crop.

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Crop Cousins, promise for the future

COUSIN in a nutshell

Crop Wild Relatives (CWRs) are often seen as the COUSINs of domesticated crops, given their close kinship and their role as important sources of natural genetic variation.

Crop diversification and breeding are important tools for achieving the necessary agroecological transition of European food systems, and in this regard CWRs can play a key role as **diversity custodians**.

Against this background **26 partners from 12 European countries** joined their effort to set up the European Union-funded project COUSIN – Crop Wild Relatives Utilization and Conservation for Sustainable Agriculture.

The COUSIN main objectives are to:

- IDENTIFY pathways to use CWRs to **strengthen sustainable agriculture**;
- RECOGNIZE preferred *in situ* genetic reserves,
- DETERMINE stakeholder-demanded characteristics of CWRs;
- IMPLEMENT CWRs into breeding and farming activities;
- PROVIDE information about CWRs in an accessible format to stakeholders and potential users;
- TRAIN and raise **awareness** about the value of CWRs in the society.

Moreover, COUSIN will develop a **trans situ** conservation strategy that coordinates *in situ* and *ex situ* approaches for an efficient and effective conservation of CWRs.

To reach these objectives, COUSIN will focus its activities on **five flagship crops**, as main representatives of important crop types (cereals, legumes, leafy greens, vegetables and oilseed crops).



Funded by the European Union, the Swiss State Secretariat for Education, Research and Innovation (SERI) and UK Research and Innovation (UKRI).



COUSIN readiness level

WP Leaders and co-leaders

WP1 - Co-creating the contexts for Crop Wild Relatives // ESSRG and EPSO

WP2 - Monitoring and conservation of Crop Wild Relatives // FOAG and UNIL

WP3 - Trait characterization of CWRs and pre-breeding germplasm // UCP and WUR

WP4 - Implementing CWRs in breeding and farming // BCROP and CSIC

WP5 - High-quality data resources provisioning // IPK and URJC

WP6 - Communication, Dissemination, Exploitation and Training // RSR and APRI

WP7 - Project Coordination and Management // URJC and CERAT

ACTION

Observe & Preserve

Characterize & Collect

Pre-breed

Breed

End-use

DEFINITION

01

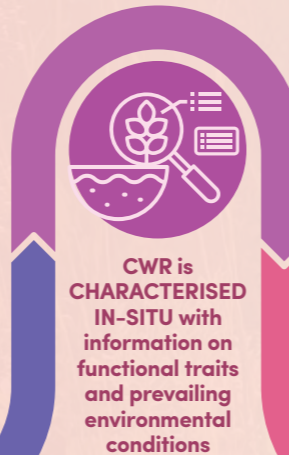


CWR is IDENTIFIED IN-SITU with information on the exact location and population size



02

03



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



04

05



Early INTERSPECIFIC CROSSES with CWRs and early selection



06

07



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



08

09



SCALE

IN-SILICO

IN-SITU

EX-SITU

RELEVANT ENVIRONMENT

OPERATIONAL ENVIRONMENT