

## Partners

The project includes **22 partners from Europe** (Austria, Denmark, France, Germany, Ireland, Italy, Netherlands, Slovenia, Spain, Switzerland and UK) and **Africa** (Morocco, South Africa).

### COORDINATION



### DEPUTY COORDINATION



**STAY TUNED!**



[www.root2res.eu](http://www.root2res.eu)



# Root2Res

**Root to Resilience: Root phenotyping and genetic improvement for rotational crops resilient to environmental change**

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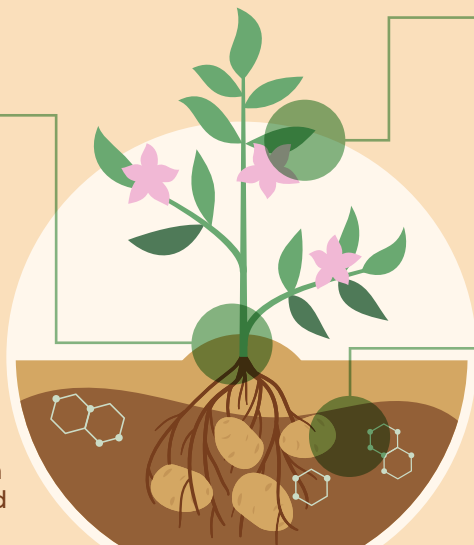
Federal Department of Economic Affairs,  
Education and Research EAER  
State Secretariat for Education,  
Research and Innovation SERI

## The project

Root2Res will provide solutions for the **rapid identification of root traits** linked to **climate resilience in rotational crops**.

### Consortium

- 22 partners from Europe and Africa.
- Wide range of expertise and interdisciplinary profiles.
- From farmers and breeders to agronomists and geneticists.
- Trials carried out in field and controlled conditions.



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### Impacts

- Resilient crops and cropping systems.
- Food security.
- Improved soil quality.
- Carbon sequestration.

### Focus

- Water availability and nutrient efficiency.
- Cereals, legumes and tubers.

## Crops

Focus on three crop types common in rotational systems in Europe:

- **Cereals:** Barley (spring and winter), durum wheat (bread wheat).
- **Tubers:** Potatoes and sweet potatoes.
- **Legumes:** Faba bean (lentils, peas).

## Field Trials Network

**Four core experimental field sites are integrated in the project, one in each agroclimatic zone (ACZ)** (UK, Slovenia, and Morocco) and **one at a transition site** between the zones (France). These trials are complemented with several controlled **environment experiments** as well as with in silico (modelling) evaluation. Satellite fields sites are also implemented to host additional trials to reflect variability in **local climate and soils**.

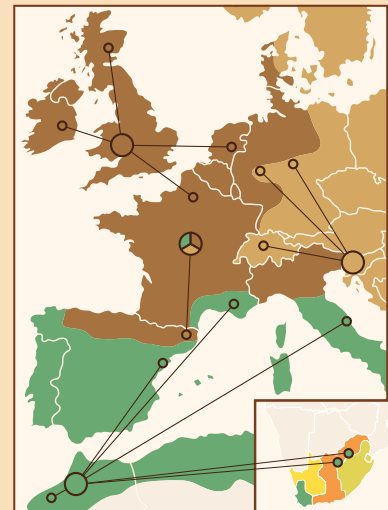
### Agroclimatic Zones (ACZ)

(based on Köppen-Geiger classification)

- Oceanic climate (ACZ 1)
- Humid continental climate (ACZ 2)
- Mediterranean climate (ACZ 3)
- Subtropical climate
- Semi-arid climate
- Desert climate

### Trials

- Core sites (represented by a large circle)
- Satellite sites (represented by a small circle)



Evaluating root ideotypes for a changing environment.



Combining stakeholder involvement and modelling.



Developing toolboxes for quick genotype and root phenotype assessment.



Identifying candidate markers connected to desired root traits.



Quantifying the plasticity and trade-offs of novel cultivars.

The process