



# LEGUMINOSE

the way to a green transition

## LEGUMINOSE – Legume–cereal intercropping for sustainable agriculture across Europe

### Project description

The world population recently reached 8 billion people. By 2050, this number will further increase to 10 billion. To feed the raising global population, food production must increase by 60%. Current agriculture practices, however, are jeopardizing this goal: Intensive use of fertilizers and continuous monocropping destroy soils and natural ecosystems and produce high levels of greenhouse gases.

Intercropping is an ancient agricultural technique where two or more plant species are grown simultaneously in the same field. This method of farming can increase crop yields by up to 20% and improve soil health. The latter can reduce the need for synthetic fertilizers by up to 50%. Intercropping can also increase biodiversity, which increases the resilience of agricultural systems to climate change.

Overall, intercropping provides a sustainable and efficient way to produce food, as it increases the productivity of land while reducing the need for synthetic fertilizers.

Intercropping: from niche to mainstream

Despite its environmental and economic benefits, intercropping is still a niche practice in the EU: Only 2% of European arable land is used for legume-cereal intercropping.

LEGUMINOSE [<https://www.leguminose.eu/>] wants to change that by transforming legume-cereal intercropping from a niche practice to a mainstream method.

### Objectives

The goal of the LEGUMINOSE project is to establish intercropping as a climate-smart farming practice. For this, the project will

- investigate the benefits of intercropping beyond the well-studied effects on nitrogen dynamics,
- identify the obstacles to adoption of intercropping, and
- provide farmers across the EU with accessible, actionable and science-based information for a profitable and sustainable agricultural transformation.



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## Methods

The project aims to increase the uptake of intercropping by assessing its potential through data collection from 6 research fields across Europe. At the same time, we will demonstrate intercropping and provide a forum to discuss and overcome barriers by establishing 180 on-farm Living Labs in different pedo-climatic zones across Europe (IT, DE, DK, ES, PL, CZ, UK), Egypt, and Pakistan.

In the UK the Farm Living Labs will be run as an Innovative Farmers field lab [<https://www.innovativefarmers.org/>]. We are looking for 20 farms to take part in trials looking at yield and soil health benefits of intercrops from a range of crop mixes in organic, conventional and regenerative systems as well as in different locations across the UK.

## More about the project

This project is funded by Horizon Europe. UK funding is provided by UKRI.

The project brings together a partnership of 17 organizations from around Europe. UK partners are Reading University and Soil Association.

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For more information see:

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