

LEGATO

**LEGumes for the
Agriculture of TOvermorrow**



LEGUMES IN EUROPE:

Legumes fix atmospheric nitrogen via symbiotic relationships with soil bacteria (Rhizobium) and have no requirement for nitrogen fertilizers. They improve the soil structure, leave residual soil fertility for subsequent crops and have a diversifying effect on cropping systems reducing the requirement for pesticides.

Rich in slowly digestible starch, soluble sugars, fibre, minerals, vitamins and essential secondary metabolites they have a major nutritional role with additional benefits in anticancer and health promoting compounds. Valuable sources of protein for human consumption they are currently greatly underused in Europe.

Europe is dependant upon imported commodities for 70% of protein rich products for animal feeds, importing +/- 25Mt of meals and 15Mt soybean seeds.

It is becoming urgent to reduce the trend of reduced legume cropping in Europe seen over the last 40 years.

LEGATO Project Strategic Aim:

- To contribute to the **sustainable reintroduction of grain legumes in European cropping systems**.
- The identification and testing of novel breeding lines with valuable characteristics, disease and pest resistance, tolerance to abiotic stresses and quality for human consumption.

Pre-competitive Objectives:

- To screen diversity in legume collections.
- Identify gene traits determining stress resistance, yield stability & nutritional qualities.
- Develop genetic markers for fast breeding of varieties with desirable traits.
- Develop fast and efficient selection tools for quality traits.

Agronomic Objectives:

- Design legume based cropping systems adapted to local needs, testing effects on yield stability, productivity and quality.
- Determining the requirements for inoculation of peas and beans with selected efficient strains of Rhizobium.
- Identifying grain legumes with desirable traits, combining these traits and generating pre-breeding material for breeders to take to final variety registration.

Objectives for Stakeholders:

- Prioritise traits, targeting qualities relevant for food products such as legume fortified breads.
- Identifying consumer food habits and expectations in terms of sustainability, nutritional and health promoting qualities.
- Dissemination of information, innovative genotypes and agronomic practices towards stakeholders and the scientific community.

Project Consortium

