

LIVESEEDING

Organic seed and plant breeding to accelerate sustainable and diverse food systems in Europe



LiveSeeding in a nutshell

Organic seed and plant breeding to accelerate sustainable and diverse food systems in Europe

- 37 partners from 15 European countries
- Innovation Action of Horizon Europe funded under
- Grant agreement ID: 101059872
- Total 6.6 Mio €
- 4 years (Oct 2022 – Sept 2026)
- Sister project: InnOBreed on organic fruit breeding



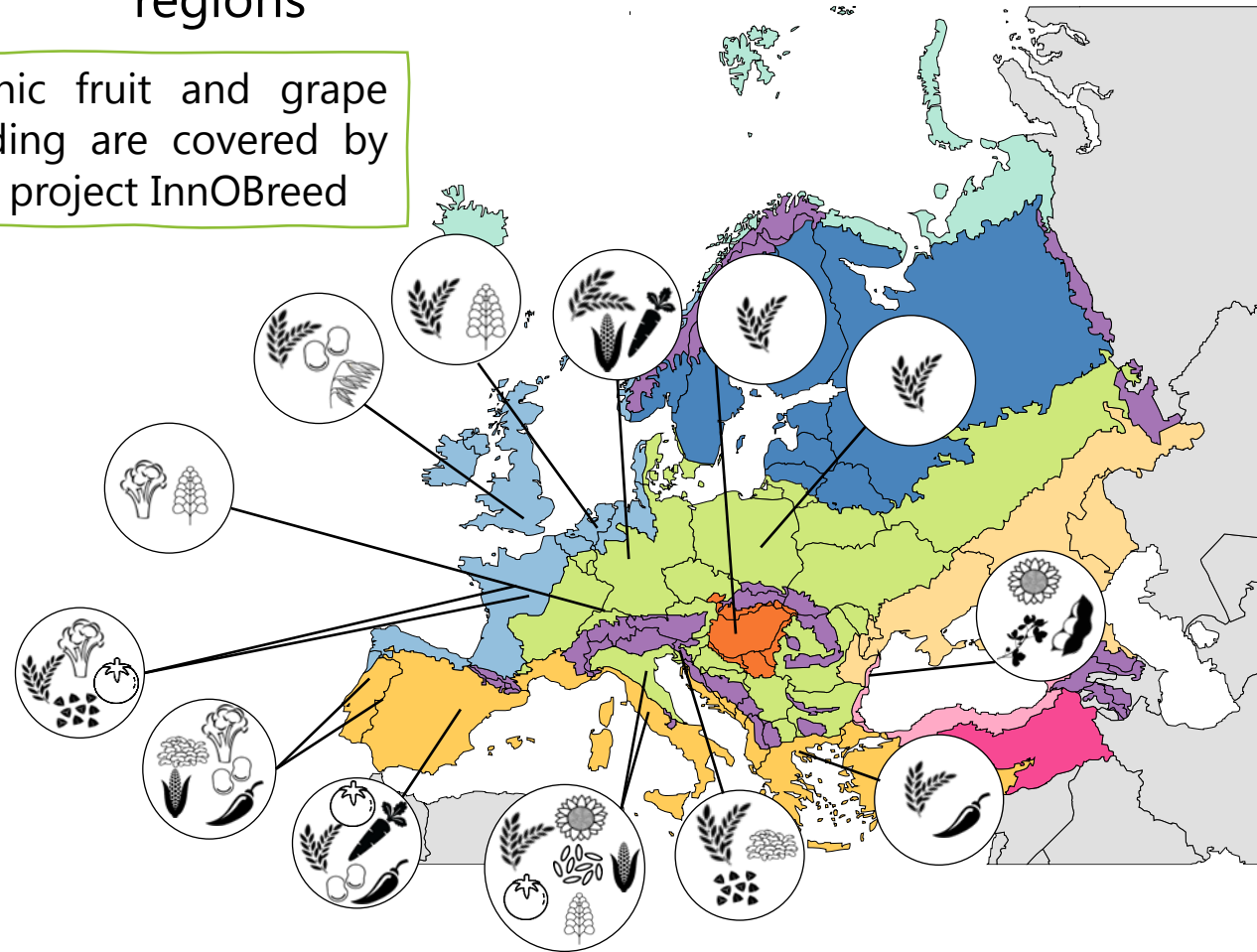
Project's objectives

- ❑ increase and optimize **crop diversity** to be used in organic farming systems
- ❑ advance **cultivar testing** dedicated to organic farming
- ❑ increase **supply and quality of organic seed**
- ❑ Increase **transparency** of the organic seed market
- ❑ ensure efficient **scaling up** of organic seed and breeding initiatives
- ❑ promote **organic breeding** supported by value chain partners and society
- ❑ **capacity building and participatory knowledge creation** from seed to plate

Target crops and climatic regions

- 15 different crops of special relevance for the organic sector in different pedoclimatic regions

Organic fruit and grape breeding are covered by sister project InnOBreed



Biogeographical regions of Europe

- Arctic
- Boreal
- Atlantic
- Continental
- Alpine
- Pannonian
- Mediterranean
- Macaronesian
- Steppic
- Black Sea
- Anatolian

After a map by the European Environmental Agency: www.eea.eu.int

ARABLE Cereals



Wheat



Rice



Oat



Maize

Pseudocereals



Buck-wheat



Oil seed

Sunflower

Grain legumes



Broad bean



Lupin



Beans



Soybean

FODDER



Alfalfa

HORTICULTURAL



Pepper



Carrot



Tomato



Brassica

Multi-actor approach & Living Labs

- Activities organized in **17 local/regional Living Labs** focused on 7 vegetable and 10 arable crops from breeding to value chain (from seed to plate)



PUSH – PULL – ENABLE approach

- the entire **market** is observed with the aim of generating long-term solutions for increasing the amount of organic seeds in the EU
- **PUSH** increases the availability of organic seeds of cultivars suitable for organic production
- **PULL** increases and stabilizes the market demand for organic seeds of cultivars suitable for organic production
- **ENABLE** accelerates and encourages the legislative and regulatory environment to adapt to supply and demand

supply & demand

The estimated total potential **demand** of organic seed & plant reproductive material (sum of **organic purchased seed**, **organic farm-saved seed**, **derogation for non-organic seed**) in terms of **volume of seed** (in tons) required by organic farmers in the EU Member States and Switzerland in 2016. Crops marked with * are quantified in terms of number of transplants; crops marked with ** are quantified in mil. of seeds.



2016

Organic seed purchased (Amount & percentage)	Organic farm saved seed (Amount & percentage)	Non-organic seed purchased (Amount & percentage)	Total organic seed demand (Amount)
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GRAINS

Wheat (t)	60,727 (42%)	37,201 (26%)	46,637 (32%)	144,564
Grain maize (t)	1,521 (51%)	168 (6%)	1,309 (44%)	2,998
Barley (t)	21,348 (47%)	12,466 (28%)	11,285 (25%)	45,098
Oats (t)	23,247 (43%)	18,765 (34%)	12,503 (23%)	54,516

LEGUMES

Lupine (t)	1,599 (43%)	952 (25%)	1,189 (32%)	3,741
Soybeans (t)	4,549 (46%)	2,037 (20%)	3,374 (34%)	9,961
Peas (t)	5,638 (42%)	2,564 (19%)	5,149 (39%)	13,351
Lucerne (t)	1,115 (43%)	249 (10%)	1,217 (47%)	2,582

VEGETABLES

Tomatoes*	52,586,746 (22%)	22,952,357 (10%)	162,971,075 (68%)	238,510,179
Onions**	2,277 (55%)	235 (6%)	1,648 (40%)	4,161
Carrots**	3,018 (24%)	106 (1%)	9,331 (75%)	12,455

FRUIT

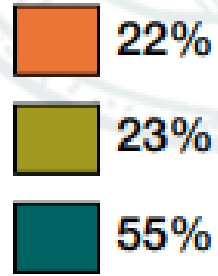
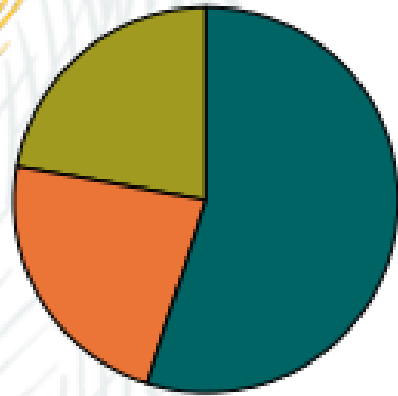
Apples*	1,629,674 (36%)	585,247 (13%)	2,280,694 (51%)	4,495,615
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NON-ORGANIC SEED PURCHASED

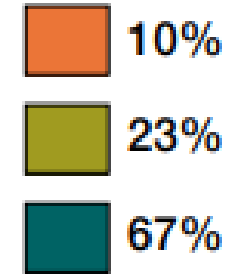
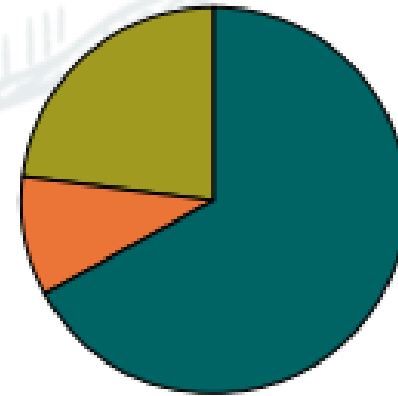
ORGANIC FARM SAVED SEED

ORGANIC SEED PURCHASED

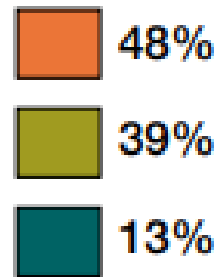
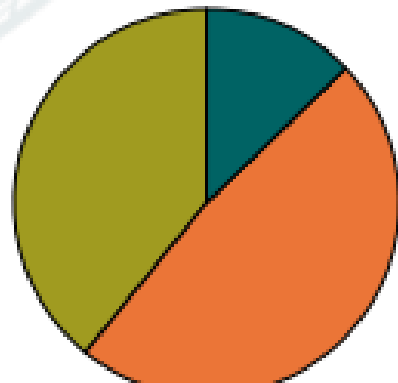
Northern Europe



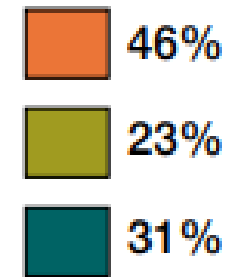
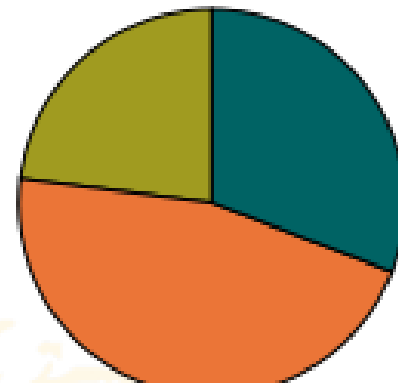
Central Europe



Eastern Europe



Southern Europe



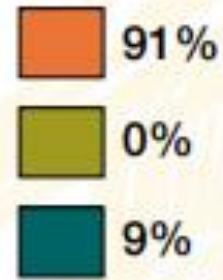
WHEAT

NON-ORGANIC SEED PURCHASED

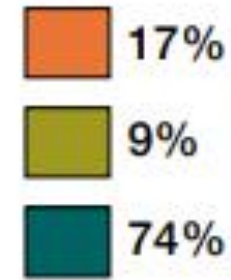
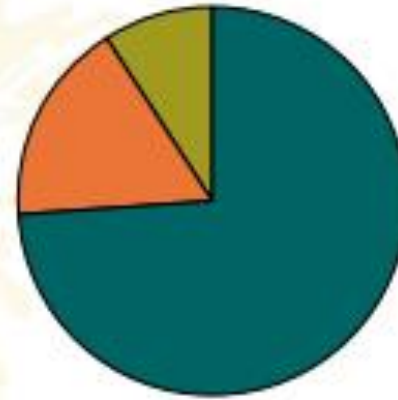
ORGANIC FARM SAVED SEED

ORGANIC SEED PURCHASED

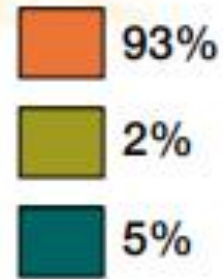
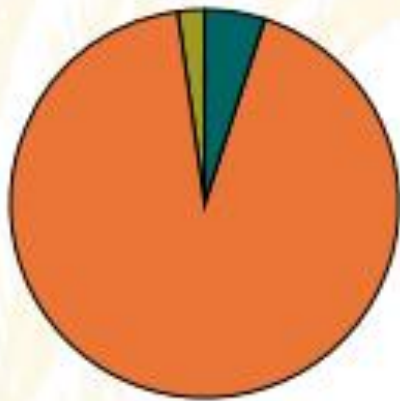
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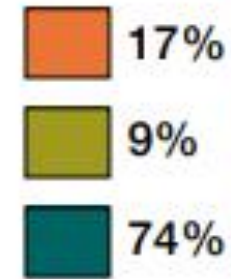
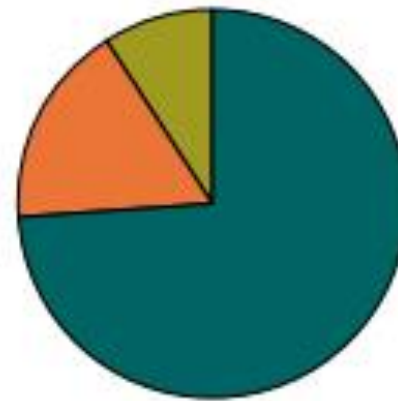
Central Europe



Eastern Europe



Southern Europe



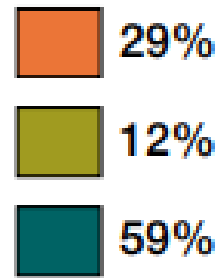
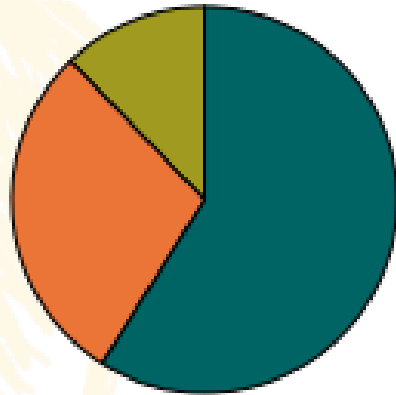
LUCERNE

NON-ORGANIC SEED PURCHASED

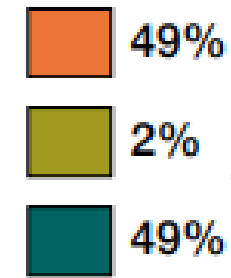
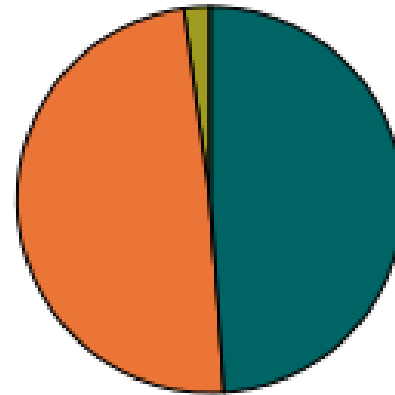
ORGANIC FARM SAVED SEED

ORGANIC SEED PURCHASED

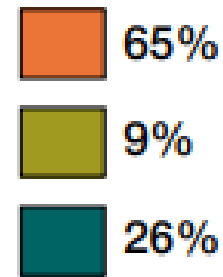
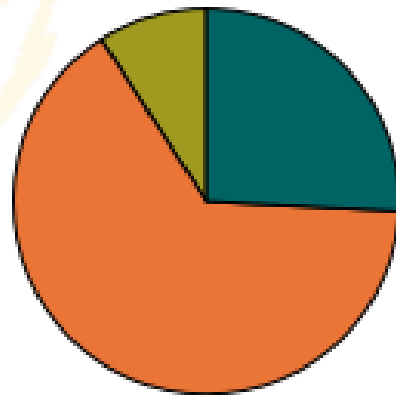
Northern Europe



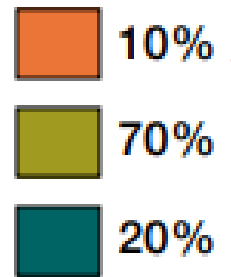
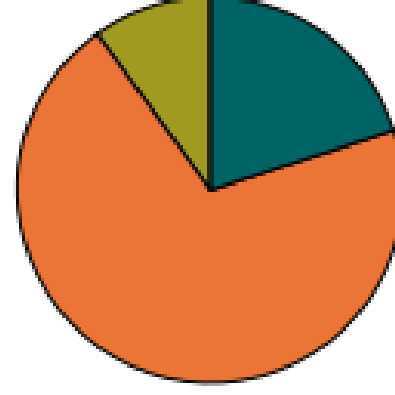
Central Europe



Eastern Europe



Southern Europe



TOMATO

Success factors to stimulate production and use of organic seed



- Transparency, accountability and participation
- Transparency:
 - Well-functioning (real-time) **database**
 - **Data** on organic farming area, organic seed multiplication area, organic seed use, farm-saved seed use ...
- Accountability:
 - Derogation regimes are **documented**
 - Derogation reports are **published**
 - Creating a **reliable framework** to foster investments
- Participation
 - Seed Expert Groups incl. **all actor** of the organic seed supply chain
 - **National roadmaps** with stakeholder involvement (for instance developing incentives, derogation rules, ...)

Incentives for farmers to use organic seed

Organic seed is pre-financed

Discount on the price of organic seed

Level the price difference between organic and conventional seed

Economic

Premium price for product made with organic seed

Collective purchasing

Organic breeding

The variety is adapted to local growing conditions

Ecological

The variety is suitable for organic farming

Technical

Farmers produce and process their own organic seed

No residues

Communicate to consumers

Food chain partners demand organic seed

Social

Level playing field for farmers

Variety has added value for consumers

Integrity of the organic product

Categorization of crops/sub-crops



Category	Organic seed availability status	Derogation level
Category I (or national annex)	Sufficient organic seed of a broad choice of cultivars available	No derogation
Category II	Insufficient quantity of organic seed of limited cultivars available	Single derogation possible
Category III	No or very few organic seed available	General derogation

Warning list (France)	Sufficient organic seed of a broad choice of cultivars available in near future	No derogation from year XXXX on
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How to foster harmonization of the EU-organic regulation across the EU?

- All countries need to increase **production** and **use** of organic seed
- Waiting for “the other countries” to become active will not solve the problems
- Active participation “at national level” and “at EU-level”
- EU-Horizon projects Liveseed (2016-2021) & LiveSeeding (2022-2026) are supporting national authorities
- National **seed expert groups** and **national projects** to support production and use of organic seed
- Example of **harmonization** approach – EU wide router database

www.seeds4organic.eu

National roadmaps towards 100% organic seed

Why do we need national roadmaps?

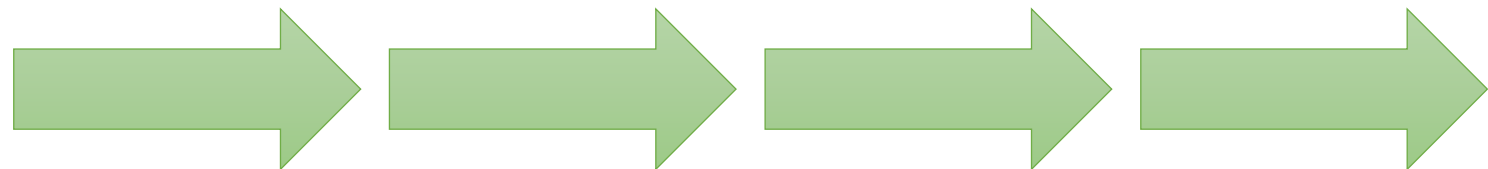
- Each country is individual in terms of cropping systems, climatic conditions, historical & cultural aspects
- Seed companies need **reliable data** on the actual demand for organic seed and clear deadlines for derogations for the different crops to invest in scaling up organic seed production.
- Increased availability of organic seed from suitable and locally **adapted varieties** is needed to **motivate** farmers to use more organic seed.

What could a national roadmap support?

- Increase transparency
- Improve national databases
- Implement national organic cultivars trails
- Boosting organic plant breeding activities
- Support a holistic seed health strategy
- Upscaling organic seed production

How could a roadmap be implemented?

- Via the **national organic action plan**
- Via **national projects**
- Via continuous work on **national seed expert groups**



LiveSeeding capacity building activities

To stimulate transparency, knowledge exchange and harmonization of implementation of the organic regulation and other regulations across EU countries, LiveSeeding will offer capacity building on:

- Implementing a road map towards 100% organic seed use by 2036 for national/regional authorities, seed expert group members
- Offering organic seed in the EU Router database for organic seed supplier
- Using the EU Router database to enlarge organic seed supply in national databases for national/regional authorities and designated bodies/ seed database managers
- Regulatory issues related to organic seed and breeding for organic breeders, seed companies, seed saver organizations and NGOs of the organic seed sector

Contact information



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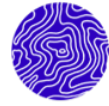
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Thank you for your attention!