



Crop
Diversification
Cluster



Enabling crop diversification to support transitions to sustainable agri-food systems

Joining forces to diversify European agriculture

What is crop diversification?

Crop diversification is the increase, in space and time, of in-field crop diversity, by using cropping practices, including:

- **crop rotation extension**, i.e., increasing the number of crops that are grown in successive years on the same field;
- **multiple cropping**, i.e., increasing the number of crops that are grown on the same field within a year;
- **intercropping**, i.e., increasing the number of crops that are grown in close proximity within the same field; and,
- **genetic diversification**, i.e., increasing number of crop cultivars within the same field.

Nowadays, most European cropping systems are highly simplified relying on only a narrow range of crop types, the overuse of chemical fertilisers and pesticides, and so lead to unsustainable food production.

Crop diversification could improve agrobiodiversity supporting ecological functions and value chain developments that would help achieve food security, while reducing the use of chemical inputs. Crop diversification could also increase resilience to environmental changes through income diversification and restored agrobiodiversity.

The Crop Diversification Cluster

The Crop Diversification Cluster gathers more than 120 actors and operates in 21 countries across Europe and internationally. The cluster increases the impact of crop diversification research and supports scientific progress and actions enhancing diversification measures by European farmers and through innovations across the agri-food system.

The cluster has set up five working groups between cluster projects to work collaboratively to unlock the potential of crop diversification in Europe.

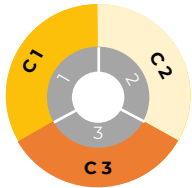
- Identifying barriers to crop diversification and their solutions.
- Defining innovative cropping methods, decision tools and new resources for crop diversification.
- Developing indicators and multi-criteria approaches for assessment of system performance at field, farm, value chain and landscape levels.
- Policy recommendations to facilitate uptake of crop diversification.
- Disseminating outputs of the cluster working groups, communicating joint activities, and forging international collaborations.

Expected outputs

LEGEND

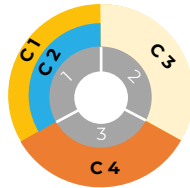
C = Crop ■ = years

LOW DIVERSITY ROTATION



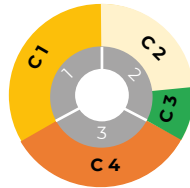
INTERCROPPING

Increasing the number of crops that are grown in close proximity within the same land-area



MULTIPLE CROPPING

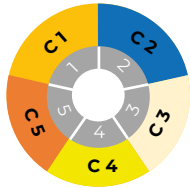
Increasing the number of crops that are grown on the same land-area within a year



← DIVERSIFICATION IN SPACE →

ROTATION EXTENSION

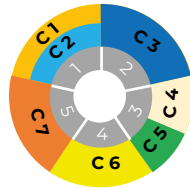
Increasing the number of crops that are grown in successive years on the same land-area



← DIVERSIFICATION IN TIME →

COMBINING PRACTICES

Using several diversification practices on the same land-area and over time



← DIVERSIFICATION IN SPACE AND TIME →

Shift from low diversity rotation (i.e., using a narrow range of cropped species in monocultures or very short rotations) toward diversified rotation using diversification practices such as rotation extension, multiple cropping, intercropping, and/or a combination of these practices.

- A portfolio of innovative crop diversification solutions, including new varieties and breeding strategies, species mixtures/crop associations, novel crop production and protection solutions as well as machinery.
- A network of field experiments across biogeographical regions and pedoclimatic conditions that demonstrate benefits of crop diversification in terms of productivity, ecosystem services and market opportunities.
- Economic and organisational approaches and incentives to promote new business models along value chains.
- New knowledge-intensive services to farmers and agronomists (advice, decision-support, precision agriculture) to help them manage and monitor their transition to more diversified cropping systems.
- New actor-oriented approaches through a learning-for-innovation platform networking case studies and crop diversification experiences across Europe.
- Policy recommendations to make the sociotechnical systems more disposed to crop diversification.

Access and share the insight and tools offered by the Crop Diversification Cluster



Designing Innovative plant teams for Ecosystem Resilience and agricultural Sustainability



Redesigning European cropping systems based on species MIXtures



Transition paths to sustainable legume based systems in Europe



Fostering sustainable legume-based farming systems and agri-feed and food chains in the EU



DIVERFARMING

Crop diversification and low-input farming across Europe: from practitioners engagement and ecosystems services to increased revenues and chain organization



Diversification through Rotation, Intercropping, Multiple cropping, Promoted with Actors and value-Chains Towards Sustainability

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diverimpacts.net

Duration timeline

2017-2021

2017-2021

2017-2021

2017-2021

2017-2022

2017-2022

This factsheet has been produced by ICONS in the context of the Horizon Results Booster services delivered to DIVERFARMING (GA N.728003), DIVERIMPACTS (GA N.727482), DIVERSIFY (GA N.727284), LEGVALUE (GA N.727672), REMIX (GA. N.727217) and TRUE (GA. N.727973). This product does not reflect the views of the European Commission.

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