

Cover crops in permanent crops: a beneficial practice for the soil, biodiversity, climate and the farmer's pocket


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Growing cover crops in rows between annual cereal crops or permanent crops e.g. olive groves involve maintaining plant cover (spontaneous vegetation or sown species) on the soil surface for all or part of the year. By increasing plant diversity, habitat availability, and soil biological activity, this practice supports functional diversity and ecosystem services while maintaining productive farming systems.

Intensive soil management, frequent tillage, and herbicide use have resulted in soil degradation, nitrate leaching, and biodiversity decline, weakening ecosystem services, increasing reliance on external inputs, and reducing resilience to climate variability.

Well managed cover crops enhance soil biodiversity and microbial activity, support nutrient cycling, soil fertility, increase abundance and diversity of beneficial insects, contribute to natural pest regulation, carbon sequestration and climate mitigation, improve water infiltration and retention, drought resilience, soil structure and trafficability, and can help to reduce dependency on fertilisers and pesticides where a new management approach is adopted. Cover crops are a low-cost, high-impact practice that transforms bare soil into a multifunctional ecological asset delivering agronomic and environmental benefits.

Practical recommendations

- Maintain seasonal cover (e.g. autumn–winter).
- Use multiple species mixes (6/7).
- Sow legume-based or mixed cover crops to enhance functional diversity and nitrogen availability.
- Apply adaptive management (mowing timing) or crimping to avoid competition with the main crop.
- Minimise pesticide use to allow biological regulation to function.
- Apply for available agri-environmental support schemes.



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