



Supporting Natural Climate Protection in Agricultural Landscapes with... ...Heathy Soils

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What condition is the soil in?

- We focus on **mineral agricultural soils** managed as arable land including special crops and non-productive elements.
- The Intergovernmental Technical Panel on Soils of FAO has **defined healthy soils** as “the ability of the soil to sustain the productivity, diversity, and environmental services of terrestrial ecosystems”.
- It is estimated that between 60 and 70 % of European soils are unhealthy to date (DG Environment 2024).
- The main threats include **wind and water erosion, soil compaction & structure degradation** or **harmful agricultural practices** (such as monocropping or the intensive use of chemical and synthetic fertilizers and pesticides).



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Importance of healthy soils for the climate

- **Storing CO²:** Soil contains about three times as much **organic carbon** as plants and twice as much as the atmosphere.
- Preserving **nature and biodiversity** as living soils are a habitat for many organisms and animals.
- Improving **natural water retention** capacity, raising with the amount of humus in the soils.
- **Reducing effects of extreme weather situations** like water and wind erosion or floodings.



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Workshop: Soils as natural carbon sinks – Practical implementation of water and soil management and requirements for CAP measures

30 September – 1 October 2024 in Pardubice

<https://www.landcare-europe.org/events>

Highlights and outcomes:

- Academic insight in the soil status within Europe;
- Introduction of actions on the EU level – the EU Soil Monitoring Law and Climate Resilient Landscapes concept;
- Farmers approaches to improve soil quality and knowledge sharing;
- Practical examples of measures on soil



Tips for farmers and best practice examples

- **Keep the soil covered with plants**, e.g., with cover or catch crops, perennial crops or leave optimally untreated stubble fields over the winter.
- Implement **diversified crop rotations** and crop **diversification**.
- **Return biomass to the soil**, e.g. by mulching of crop or pruning residues. Reduce tillage for minimal soil disturbance.
- Use **buffer strips** and **grassy margins** along waterways. Leave fallow land with spontaneous vegetation. Integrate flower areas and strips between plots.
- Maintain or introduce **organic or regenerative farming**.



Green track lines

- 3 m strips track rows of sprayers provides a wide range of non-production function of agriculture.
- With properly managed technology, crops can be grown without a decrease in production, eliminate erosion and support the biological services of flowering belts in production crops



Best practice examples



CAP scheme for agroforestry

Country: Czech Republic



Woodchips to improve soil quality

Country: Belgium



Organic farming



How do Landcare(-like) associations support the transition?

- One-on-one **agroecology consulting** with farms, with a holistic concept including ecological, economic, and social aspects.
- Developing **regional biodiversity, soil and water management plans** together with farmers, authorities, and planners.
- Organizing **field days and farmers-to-farmers trainings**, including e.g., machine demonstrations with soil-conserving technology.
- Building **cooperations** with universities and companies to develop models for carbon sequestration



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CAP recommendations

- **Step 1:** Defining and measuring soil health in the EU **Soil Monitoring Law**
- **Step 2:** Strengthen **GAEC requirements** on soil protection (current GAEC 5, 6, 7 and 8)
- **Step 3: Eco-schemes** (mosaic management, cover or catch crops, perennial crops, winter crops, intercropping, legumes, traditional agroforestry systems, organic farming, flower strips or fallow land)
- **Step 4: Agri-Environmental and Climate Measures** for Soils (conversion of arable to grass, perennial flowering strips, agroforestry)
- **Step 5:** Offer holistic **advice** on soil management



FURTHER INFO



Short film “Climate protection through carbon capture in agricultural landscapes”:

<https://www.youtube.com/watch?v=yA2gpVwvNJ8>

Landcare Europe workshop “**Soils as natural carbon sinks**” materials:

<https://www.landcare-europe.org/events>

Focus Paper on healthy soils as Natural Carbon Sinks:

https://www.landcare-europe.org/fileadmin/user_upload/Ressources/2024/LE_focus_paper_soil_FINAL_051224.pdf

Best Practice example on soil:

<https://www.landcare-europe.org/projects/projects/euki-carbon-capturing-1>



Thank you for your attention!

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