



# CARBON FARMING

## TRADE-OFFS BETWEEN AGRICULTURAL PRODUCTION AND BIODIVERSITY CONSERVATION

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# THERE IS NO CHOICE BETWEEN IMPLEMENTING CARBON FARMING OR NOT IT IS A QUESTION OF HOW TO MAKE IT HAPPEN

- **The decline of ecosystem services supporting food production is already endangering our agriculture**
  - ✓ Increasing farm resilience, more than crop yield, is the new threat
  - ✓ C farming is not only about removing CO<sub>2</sub> from the atmosphere: this is about repairing environment services that support food production
- **Carbon farming has been accused of endangering food security in the EU**
  - ✓ Even if some productivity is lost, crop yield is only one of many factors in the equation that defines food security
  - ✓ Rethinking the entire food chain will be necessary to provide adequate conditions for C farming
  - ✓ Farm productivity and resilience more than crop yield must be guaranteed

# OPTIONS FOR RECONCILING C FARMING AND PRODUCTIVITY ARE AS DIVERSE AS THE EU IS DIVERSE

- **The more limiting the environmental conditions, the bigger the yield gap between conventional agriculture and C farming**
  - ✓ EU drylands are the most promising for C sequestration and the most difficult to convert
  - ✓ C farming practices must be tailored at the local scale
  - ✓ Incentives and/or payments must be commensurate with the effort involved in transformation
  - ✓ Should we prioritize regions and/or crops for C farming?
- **Improved plant nutrition is key to increasing productivity**
  - ✓ The best soil amendment is provided by groundcover management that should be mandatory
  - ✓ We risk not having enough good quality organic matter if we do not restructure origin and treatment
  - ✓ We have the technology, but it is essential to ensure that farmers are trained correctly

# RECONCILING BIODIVERSITY PROTECTION AND FOOD PRODUCTION WITHIN THE FRAMEWORK OF CARBON FARMING

- **Soil C content tends to be positively correlated with ecosystem services supporting production (such as soil quality and diversity) as well as with crop yield**
  - ✓ At the farm scale, C farming increases above and belowground biodiversity which in turn reduce crop sensitivity to weather extremes and pests then increasing crop resilience and productivity
- **Organic and integrated farming systems (such as agroforestry and regenerative grazing) have lower land-use efficiency than conventional systems**
  - ✓ Compensating reduced yield is meant to increase land take and would require transforming more natural habitats for agricultural production unless changes in diet are promoted
  - ✓ Diversified landscapes (such as traditional Mediterranean landscapes) can make conservation and carbon agriculture locally compatible

# BEWARE OF PERVERSE INCENTIVES!

- **Incentives and compensations cannot focus only on C sequestration**
  - ✓ Biodiversity recovery may be fostered through payment for environmental services, such as the new eco-regimes incorporated by the CAP
  - ✓ No payment for C sequestration should be awarded unless no damage to other environmental services is certified.
  - ✓ Joint efforts should be promoted to create shared C-biodiversity certification



# Thank you very much for your attention



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