EKO link 2024 TARPTAUTINĖ KONFERENCIJA

WHAT IF ONLY ORGANIC? or BIG PICTURE

Hanna Winkler

IFOAM Organics Europe, politikos skyriaus vadovo pavaduotoja

2024-10-12 | KAUNAS ŽALGIRIO ARENA

ORGANIZATORIAI:

LIETUVOS RESPUBLIKOS ŽEMĖS ŪKIO MINISTERIJA

EKO agros

ONE VOICE FOR ORGANIC STAKEHOLDERS

IFOAM ORGANICS EUROPE
MAKING EUROPE MORE ORGANIC

WHO WE REPRESENT

- IFOAM Organics Europe represents the entire organic food chain and beyond
- We count almost 200 members in 34 European countries
- Based on the IFOAM principles of organic agriculture:
  Health, Ecology, Fairness & Care

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WHAT TYPE OF AGRICULTURE DO YOU WANT BY 2030?

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FURTHER AGRO-INDUSTRIAL INTENSIFICATION...

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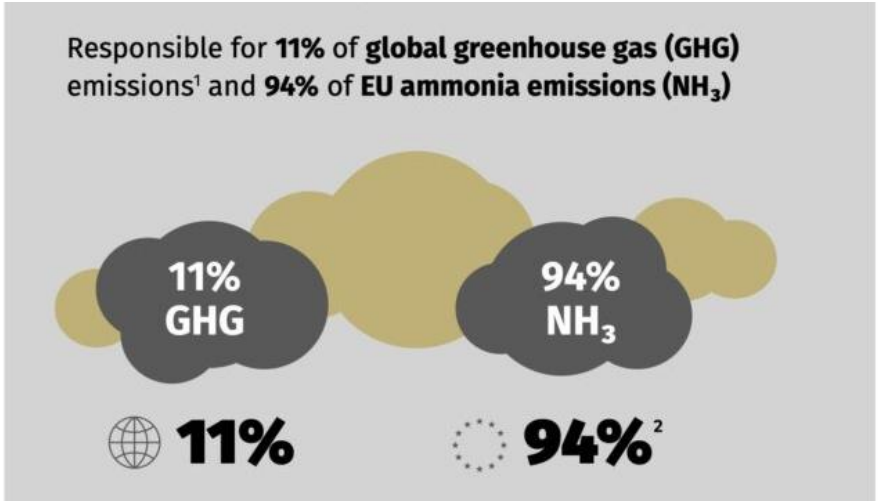
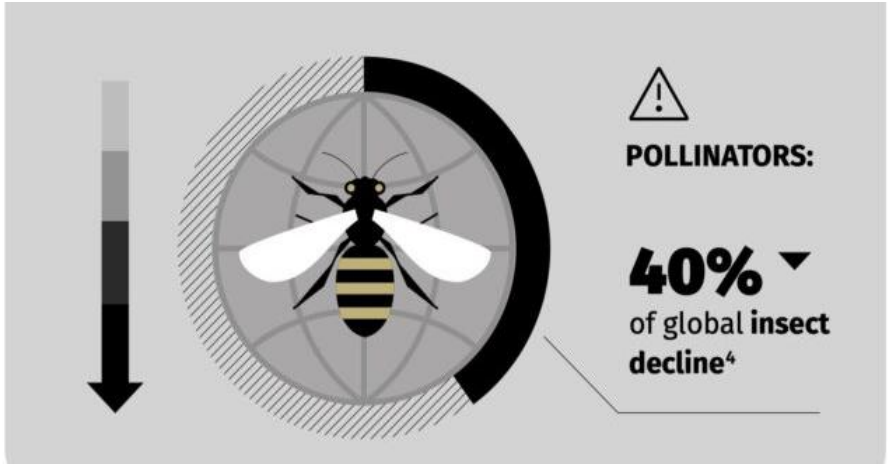
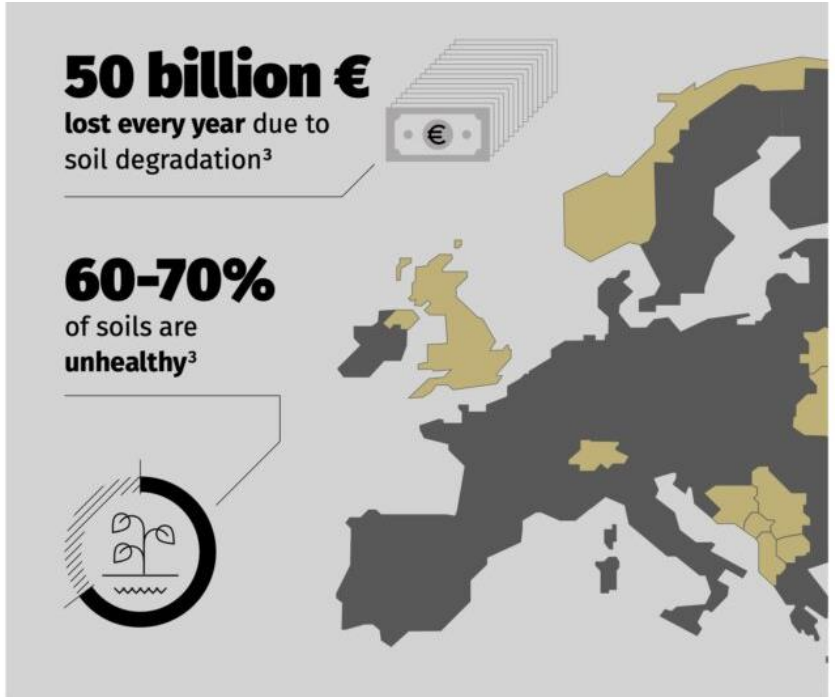
Negative aspects of industrial agriculture







Source: TPOrganics, 2023. Policy brief. Organic and agroecological farming: Safeguarding long-term food security

...OR TRANSITION TO AGROECOLOGICAL INTENSIFICATION

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ORGANIC AGRICULTURE AND ITS
BENEFITS FOR CLIMATE AND BIODIVERSITY

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Organic farming's systemic approach:
- Helps mitigating climate change
- Supports farmers' adaptation to climate change
- Creates resilient farming systems

All while it protects and improves biodiversity!

#OrganicIsPartOfTheSolution

Climate benefits

Reduced emissions by non-use of synthetic fertilisers
- ↓ 20% of global agricultural GHG emissions could be reduced using no synthetic fertilisers
- ↓ 40% less NOx emissions/ha
- ↓ Less dependency from fossil fuel intensive external inputs

Improved manure management
- ↓ 70% lower methane emissions
- ↓ 50% lower nitrous oxide emissions

Reduced GHG emissions and increased carbon sequestration
- ↑ Additional 3.5 tonnes C/ha soil organic carbon stocks
- ↑ Additional 450 kg C/ha/yr carbon sequestration
- ↓ 15% less energy consumed per kg of product
- ⊕ More resilient to changing weather conditions
- ⊕ 1082 kg CO2 eq/ha/yr avg climate protection performance

Water benefits

- ↓ 28-39% less nitrate leaching
- ⊕ Water bodies are protected from contaminants

Keeps animals with outside grazing areas and has clear rules on stocking densities

Aims for closed nutrient cycles without using synthetic pesticides and fertilisers

ORGANIC FARMING

Includes beneficial management practices like crop rotations and organic fertiliser

Offers a diversity of farmland through mindful land use and protection of natural habitats

Soil and plant health benefits

- ⊕ Improved soil quality and fertility
- ⊕ Better structure
- ↑ Higher humus content
- ⊕ Better soil aggregate stability
- ↓ 22% less soil erosion
- ↓ 26% less soil loss
- ↑ Increased water infiltration rate by 137%

Biodiversity benefits

- ↑ 30% more species
- ↑ 50% more individuals
- ↑ 20-95% more plant species*
- ↑ 150% higher abundance of plant species*
- ↑ 23% more insect species
- ↑ 30% more pollinators

*in field and field margins

Biodiversity and healthy soil = adaptation

- ⊕ Increased biodiversity supports natural pest control
- ⊕ Stabler yields during drought periods
- ⊕ Increased adaptability to future environmental conditions

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References for above figures can be found in IFOAM Organics Europe (2022), Organic agriculture and its benefits for climate and biodiversity, https://bit.ly/3U25Xve / Nic Lampkin and Bruce Pearce (2020), Organic farming and biodiversity, IFOAM Organics Europe, https://bit.ly/3gsPtyL

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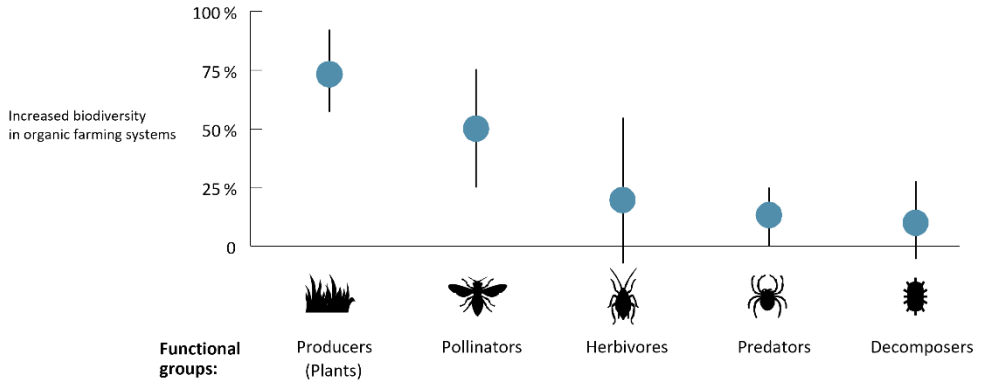
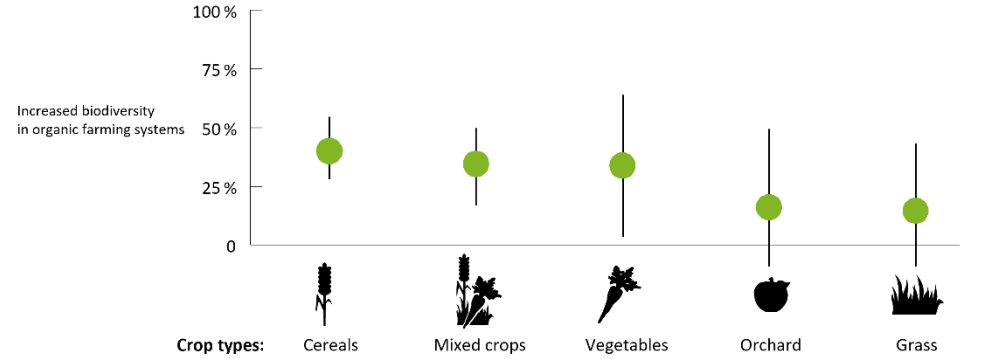
30% more biodiversity on organic farms

- Increased above and below ground biodiversity (30% more species on organic farm)
- More plant species with a higher abundance (150%)
- 23% more pollinators and 30% more insects
- Increased diversity of soil-dwelling arthropods, increased presence of earthworms, soil bacteria, fungi and mycorrhiza
- Positive impact on the activity of soil microbes and microbial communities

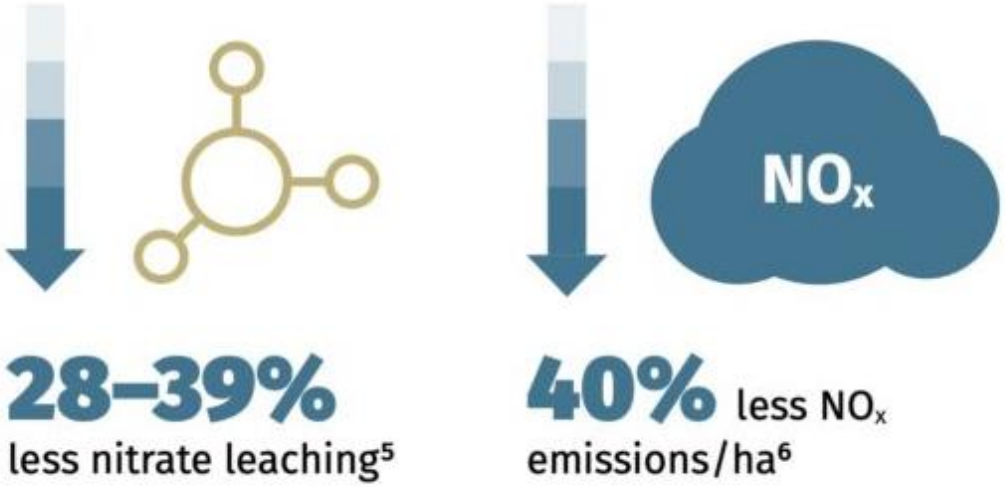




Data source: TUCK et al (2014). Land-use intensity and the effects of organic farming on biodiversity: a hierarchical meta-analysis.

Climate mitigation benefits

Emissions reductions, increased soil carbon sequestration: average **climate protection** performance of **1082 kg** CO_2 eq/ha/year, additional sequestration of **450 kg** carbon/ha/year[5]



- **Closed nutrient cycles** instead of being dependent on synthetic fertilisers or pesticide inputs.
- **Reduced GHG emissions from input production and application.**
- Organic agriculture has a higher energy efficiency and uses less energy per hectare.
- Organic **sequesters and stores more carbon.** Common practices (crop rotations, extensive livestock grazing) improve soil quality and fertility and achieve higher soil organic carbon stocks and sequestration rates.

Climate adaptation and resilience

ORGANIC AGRICULTURE AND ITS BENEFITS FOR RESILIENCE AND ADAPTATION

- ⊕ Increased biodiversity supports natural pest control
- ⊕ Stabler yields during drought periods
- ⊕ Increased adaptability to future environmental conditions

#OrganicIsPartOfTheSolution

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Soil benefits

ORGANIC AGRICULTURE AND ITS BENEFITS FOR SOIL HEALTH

- ⊕ Improved soil quality and fertility
- ⊕ Better structure
- ↑ Higher humus content
- ⊕ Better soil aggregate stability
- ↓ 22% less soil loss
- ↓ 26% lower soil surface water flow
- ↑ Increased water infiltration rate by 137%

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Soil health – a cornerstone of organic farming

- Soil hosts more 25% of the global biodiversity but 60-70% of soils in the EU are unhealthy
- Organic has a unique approach to develop soil fertility
- Creating and sustaining a ‘living’ soil was the objective of one of the first organic associations, the Soil Association
- Key practices to improve soil health include cover crops, organic amendments, rotation diversity and length, and reduced tillage.

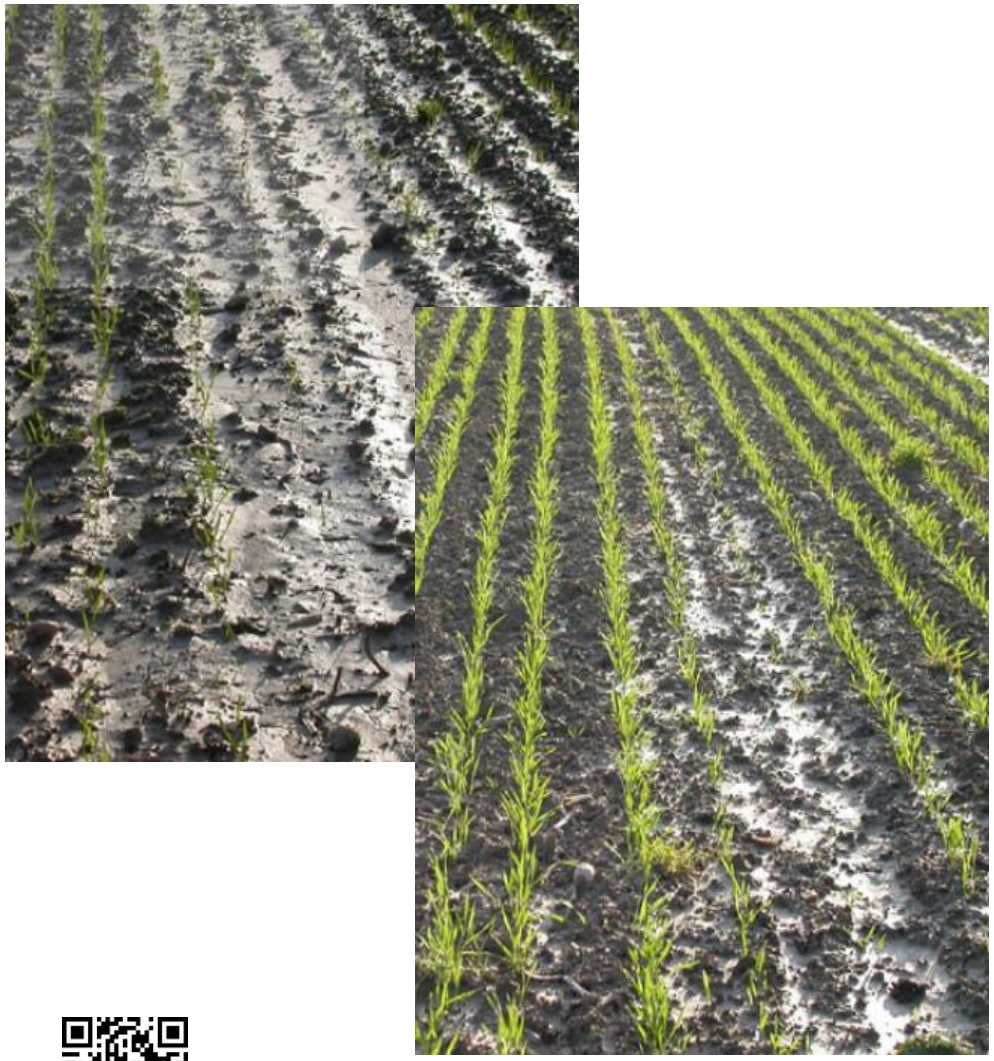
→ combating climate change

→ adapting to climate change and resilience against extreme weather events

→ preserving biodiversity

→ reducing erosion

Soil organic matter and improved water retention



- Increased organic matter content in the soil improves soil structure
  - →Promote better plant growth
  - →Habitat provision for soil microorganisms
- Higher water holding capacity during dry periods

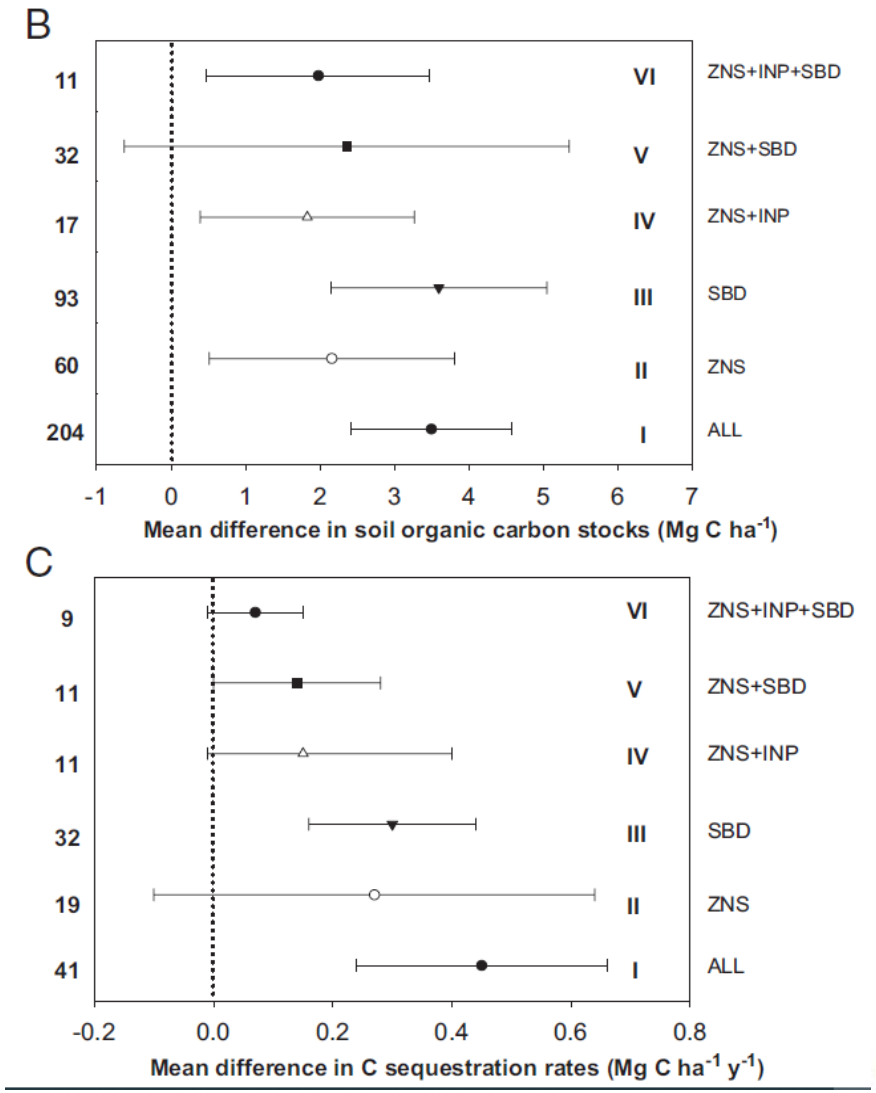
More carbon in soils on organic farms

- Higher stocks: + 3.5t C/ha
- Higher sequestration: + 450kg C/ha/year

…compared to land under conventional management

How?

Organic fertilizer, improved crop varieties, crop rotations including legumes, reduced tillage and planting of cover crops



GATTINGER, et al. (2012). Enhanced top soil carbon stocks under organic farming.

Prevent and reduce the rate of soil erosion

- Reduction of surface run off by 22%
- Reduction of soil erosion by 26%
- Protecting the soil surface, reducing runoff, and improving soil structure, minimizes the loss of topsoil, which is rich in organic matter and essential nutrients.

Organic improves water resilience

ORGANIC AGRICULTURE AND ITS BENEFITS FOR WATER

⊖ 28-39% less nitrate leaching

⊕ Water bodies are protected from contaminants such as pesticides

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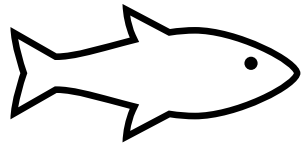
Organic avoids water pollution

Ban on synthetic chemicals

Organic principles and practices :

- Ban of synthetic pesticides, insecticides, herbicides
- Practices like crop rotations prevent plant health issues



Avoid the pollution and its destructive impacts on terrestrial and aquatic ecosystems.

Avoid the considerable **cost to society.**

More clean freshwater available.

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Organic avoids water pollution

Strict limits on the use of veterinary products

- Organic principles and practices :
- **Animal health and welfare approach (One health)**
- **Strengthen the immune system**
- Non-use of generic antimicrobials as a routine
- Antimicrobial use only in exceptional circumstances

Less need for treatments.

Reduces risk of AMR development.

Great limitation of the pollution risks due to the use of medication.

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Organic reduces nitrate leaching

Reduces nitrogen pollution

Organic principles and practices :

- **Closed nutrient cycles**
- No use of highly soluble synthetic fertilisers
- **No exceed of the land's holding capacity**
- Legumes, winter and intercrops, mulch, permanent grassland…

28% - 39% less nitrate leaching into water bodies

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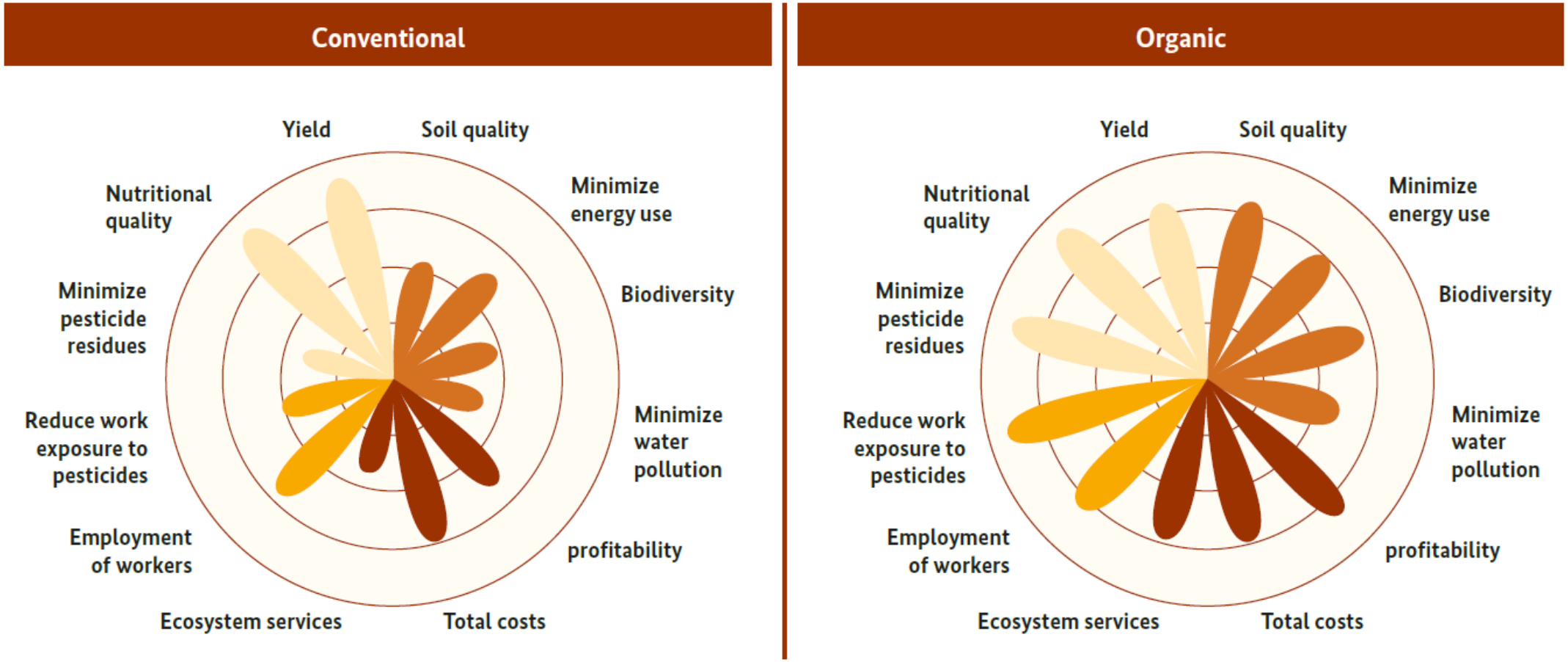

Performance of specific sustainability metrics relative to the four circles representing 25, 50, 75 and 100%.

REGANOLD, J. P. & WACHTER, J. M. (2016). Organic agriculture in the twenty-first century. in GIZ Ecosystem Soil.

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