Farming without agro-chemicals
The stance of organic farmers

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Who does IFOAM EU represent?

Representing the organic movement and sector with 200 members in all Member States and neighbouring countries

- Organic farming associations
- Organic food processors, retailers, traders
- Organic food and farming advisors and researchers
- Organic certifiers

Based on the IFOAM principles of organic agriculture:
- Health, Ecology, Fairness & Care
- Closed nutrient cycles / reduction of external inputs
- Combine tradition, innovation and science
The world of organic farming 2017

69.8 m ha
Organic farmland in
million hectares
+20%
From 2016
181
Countries with organic farming

14 countries have 10% or more of their agricultural land under organic management.

In 2017, over 11.7 million hectares more were reported compared with 2016.

13.3%
of the food market in Denmark is organic

The highest share of the organic market of the total market is in Denmark, followed by Sweden, Switzerland, Austria, and Luxembourg.

Top 5 countries with more than 10 percent of organic agricultural land 2017

Liechtenstein
Samoa
Austria
Estonia
Sweden

Growth of the organic agricultural land 1999-2016

The five countries with the highest organic shares of the total market 2017

Denmark
Sweden
Switzerland
Austria
Luxembourg

www.organic-world.net – statisticsifoam.org

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MAKING EUROPE MORE ORGANIC
Plant health care in organic farming
- Not just an input replacement

• Regulated in the Regulation (EC) 834/2007, Art. 4
  → Inputs limited to “Natural or naturally derived substances”

Synthetic pesticides are replaced by strategies:
• choosing appropriate species and varieties less susceptible to pests and diseases and adapted to local conditions,
• appropriate crop rotation,
• the enhancement of functional agro-biodiversity,
• the release of macrobials,
• mechanical and physical methods.

Source: LIVESEED
Inputs in organic farming

Inputs limited to substances that are already naturally occurring in the system:

- Simple mineral substances (e.g. Calcium)
- Substances of plant origin (e.g. Orange oil)
- Microorganisms (e.g. Bacillus thuringiensis)
- Substances of animal origin (e.g. Pheromones, Whey)

- Annual growth of biocontrol 15 – 20 %
Copper in Organic Agriculture: A system approach

- Improved use of forecasting models with newest technology
- Better formulations of substances
- Lower application rates
- Research and innovation to find suitable naturally occurring substances
- Management measures
- Optimum soil care
- Adequate nutrient supply
- Fungal-resistant or tolerant varieties
- Locally adapted, traditional used

1. Resistant or robust varieties

- Organic movement first to put a limit on copper use
- Reduction of external inputs – Lowest level of ANY external inputs
- Correct and science based assessment key to ensure appropriate measures: Develop Guidance for the risk assessment of minerals
Funding for organic farming research under EUs framework programmes

- **Only 0.56 % of H2020 budget** for research in Organic Food & Farming*

- **We need more resources**, especially for organic plant breeding!

- **New gaps** are to be expected (climate change, new pests and diseases)

*Source: Elaboration TP Organics on Cuoco, E. et al. (2018) – H2020 total sum doesn’t include calls 2020 as the information are not available
Organic Farming Systems
DOK trial Switzerland

In summary, organic yield levels over 35 years of the trial and taken together for all crops were approx. 80% of those produced by the conventional system.

Over the years of the trial, there was
- 34-53% lower input in fertilizers and fossil energy and
- 97% reduction of pesticides in the organic cropping systems
- The energy input per unit of yield (harvested crop) was 19% lower in the organic systems and
- “The consistent results [...] support the hypothesis that a more diverse community is more efficient in resource utilisation.”

Paul Maeder, et al. Soil Fertility and Biodiversity in Organic Farming. Science 296, 1694 (2002); DOI: 10.1126/science.1071148
“Feeding the world”, really?

• The reasons for hunger are complex and varied. It is more a problem of lack to access to food, because of conflicts or poverty, or of lack of access to the means of producing food (land), than of insufficient production.

• According to IPES Food (2016 report), a highly industrialised agri-food system generates negative outcomes on multiple fronts: “widespread degradation of land, water and ecosystems; high GHG emissions; biodiversity losses; persistent hunger and micro-nutrient deficiencies alongside the rapid rise of obesity and diet-related diseases; and livelihood stresses for farmers around the world.”

• Land use: “How land is farmed (not how much) may in fact be the most pressing concern. Globally, 20% of land is now considered to be degraded, with industrial agriculture contributing significantly to this trend. Most developed countries have become net importers of animal feed and biomass for human consumption, exacerbating environmental pressures and competition for land in supply regions.”

• Food waste and of the consumption of animal products are the key variables that impact land use globally.
How to measure productivity?

• Solely measuring yields disregards the level of input needed and the **negative externalities**

• Agroecological agriculture systems can be highly productive. According to IPES Food: “**Diversified systems are by definition geared towards producing diverse outputs, while delivering a range of environmental and social benefits on and off the farm. Narrowly-defined indicators of agricultural performance fail to capture many of these benefits, including: high total outputs, high nutrient content of outputs, reduced health risks, resilience to shocks, provision of ecosystem services, high resource efficiency, job creation**”.

• Example, the cost on ground water pollution is of 1298 euros for a hectare of conventional potatoes, while it is of 0.4 euros for a hectare of organic potatoes.

• Organic agriculture is more profitable for farmers as it is less input intensive. Instead organic farming is knowledge intensive
Further agro-industrial intensification...
...or transition to agro-ecological intensification...
We can produce sufficient healthy food in an environmental and social sound way through agro-ecological practices and biocontrol.

Thank you for your attention

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Further reading / reference

**UN reports**

Human Rights Council 2010: UN Special Rapporteur on agroecology as a mode of agricultural development

UNEP-UNCTAD Capacity-building Task Force on Trade, Environment and Development 2008: Organic Agriculture and Food Security in Africa


[https://www.theguardian.com/society/2014/nov/20/obesity-bigger-cost-than-war-and-terror](https://www.theguardian.com/society/2014/nov/20/obesity-bigger-cost-than-war-and-terror)


IPES 2016: From Uniformity to Diversity: A paradigm shift from industrial agriculture to diversified agroecological systems.