

Plant Health Care in Organic Farming

The Future of Copper in Agriculture - 10 July 2018

Eric Gall – Deputy Director / Policy Manager

Who does IFOAM EU represent?

Representing the organic movement and sector with 190 members in all 28 EU member states, EFTA and EU candidate 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.

What is Organic Agriculture?

Organic Agriculture is a production system that sustains the health of **soils, ecosystems, animals** and **people**. It relies on ecological processes, biodiversity and closed nutrient cycles adapted to local conditions with **continuous lowering dependence** on external inputs.



Organic Agriculture combines **tradition, innovation** and **science** to benefit the shared environment and promote fair relationships and a good quality of life for all involved.



The aim is a **highly resilient farming system**



Just an input replacement? No!

- Synthetic pesticides are replaced in organic farming by **strategies**, not exclusively by other input.
- Plant health in organic is managed mainly through **preventive** and **indirect** measures:
 - choosing **appropriate species and varieties** less susceptible to pests and diseases and adapted to local conditions,
 - appropriate **crop rotation**,
 - the enhancement of functional **biodiversity**,
 - the release of **macrobiols**,
 - **mechanical** and **physical** methods.



Characteristics of Organic Plant Health Care

- Where external inputs are used, organic plant health is based on the **precautionary principle**.
- As a result organic farming rejects the unpredictable risks coming from the release of artificially designed molecules (e.g. “synthetic” pesticides) and organisms (from genetic engineering) into the environment.
- In organic farming only substances already occurring in the natural system are used.
- The organic regulation allows only the use of specific naturally occurring substances, **when duly justified** and when preventive measures are not enough.
- Herbicides are currently not allowed at all.



Characteristics of Organic Plant Health Care

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

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



In the frame of the implementation of the Regulation 1107/2009/EC

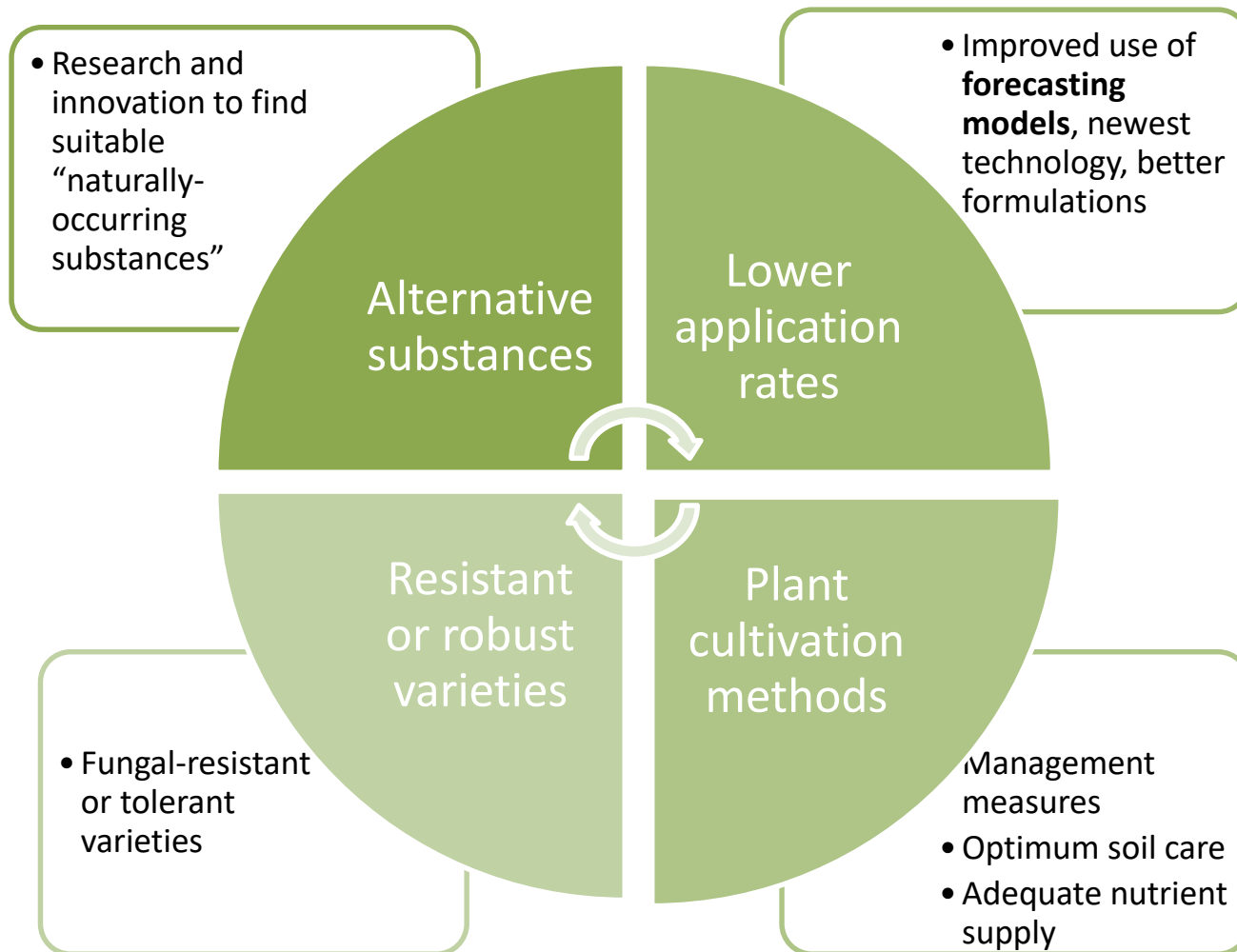
↑ Guidance documents for the handling of botanicals, pheromones and microorganisms

BUT: No Guidance document for the risk assessment of mineral substances – no scientific sound assessment of copper possible at the moment



Copper Minimisation Strategy:

A system approach



Example: Copper minimisation strategy in apple growing



Develop alternative substances for disease control

- Development of new preparations suitable for organic farming
- Optimizing the use of existing formulations as sulphur products, baking powder etc.

Lowering application rates in disease control

- Improved use of disease forecasting models
- Newest application technology, splitting of applications

Develop varieties tolerant against major diseases

- Long-term breeding programmes to obtain highest possible genetic diversity
- Obtain a higher diversity of marketable locally adapted varieties

Plant cultivation methods

- Removal of infected leaves to reduce the infestation potential
 - Covering of trees (roof)
- These elements are combined for the **strategy against apple scab and other fungal diseases in organic fruit growing**
 - The focus of the strategy depends on climatic conditions and region
 - All four elements are **highly interfering and dependent** on each other

Copper in Organic Farming

- Organic movement was the first to put limits to application of copper

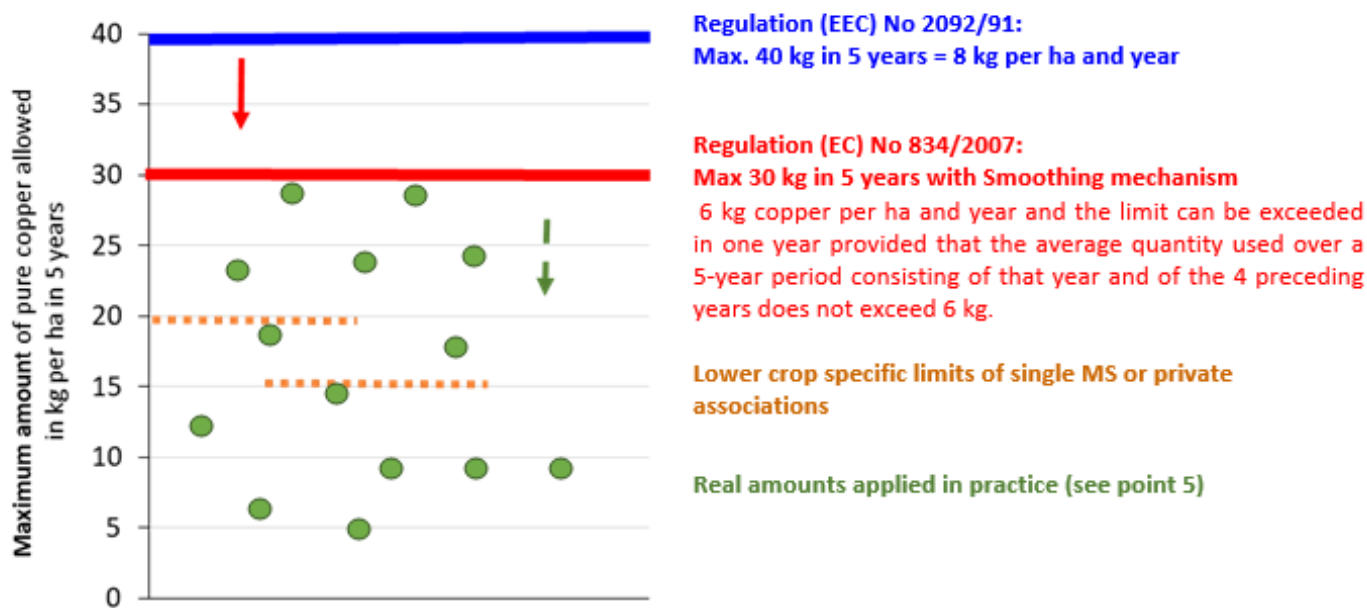


Figure 1 - Minimization of maximum amounts of copper allowed in organic farming until now (own figure)

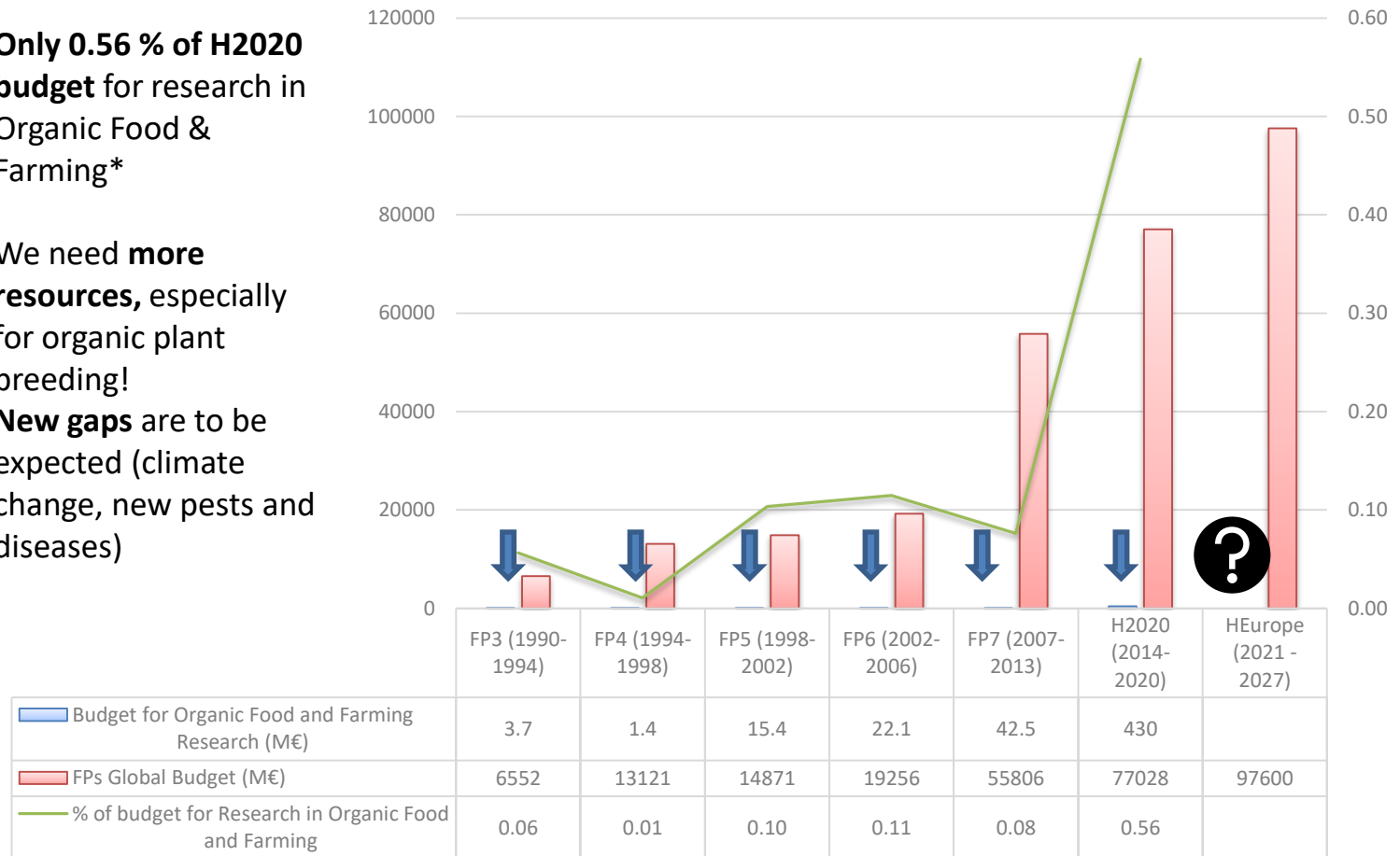
Copper Re-Authorisation

- Correct and science based assessment key to ensure appropriate measures: Develop Guidance for the risk assessment of minerals
- Re-authorisation for 7 years
- Importance of copper **minimisation strategies**:
 - IFOAM EU started development of **European strategy paper** for copper minimisation in organic agriculture
 - **Smoothing mechanisms** to facilitate the minimisation strategy
- **Research and innovation** to reduce copper and to create more resilient systems under way – European & national research projects currently under way
 - Two Horizon2020 projects (**RELACS & Organic-Plus**) just started and are aimed at identifying alternatives to the use of copper compounds.



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



Plant Health Care in Organic Farming

Thank you for your attention

Eric Gall– Deputy Director / Policy Manager