

# Good Agricultural Practice and protection of waters

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**P - RECYCLING in AGRICULTURE**  
**HELCOM and Baltic 21 Agriculture Seminar**

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# Good Agricultural Practice and protection of waters



## Structure of the presentation:

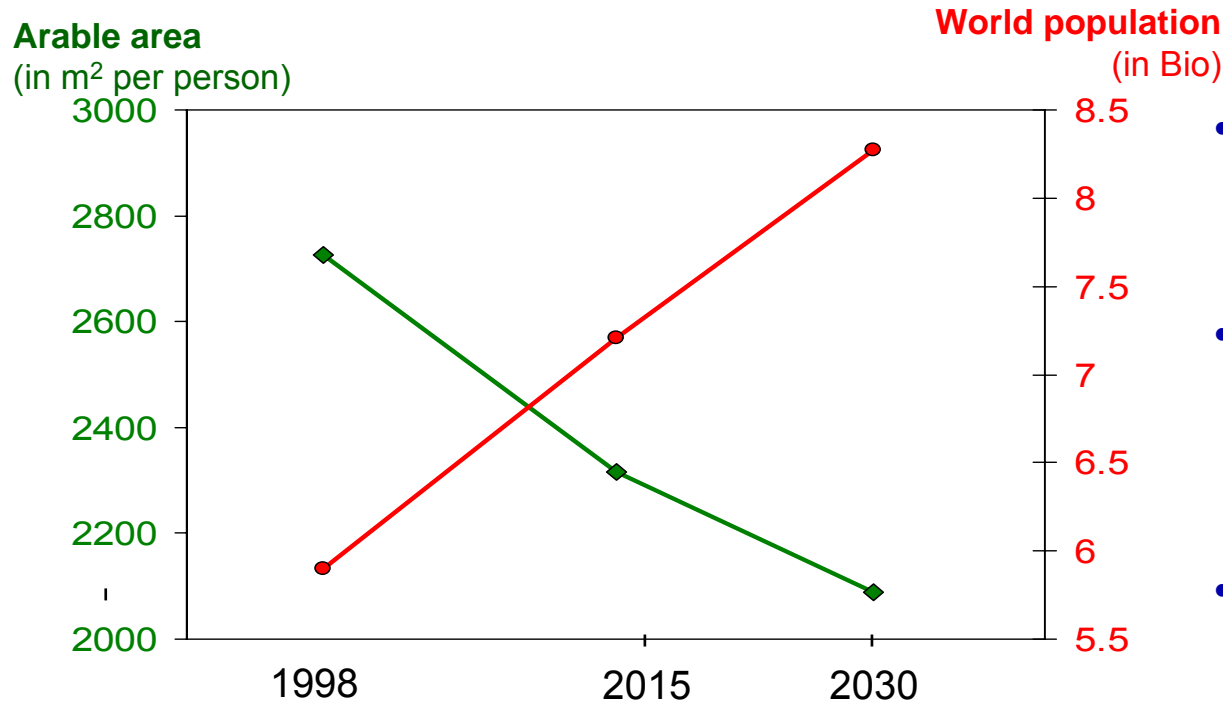
- The need for more food, feed, fibre and biomass
- Sharp decrease of phosphorus consumption  
*EU agricultural productivity under threat*
- Impact of phosphorus in the environment
- EFMA involvement and actions  
*From GAP to Sustainable Farming Systems*

*Recommended GAP in Annex*

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>> an increasing world population has to be fed from a decreasing arable area



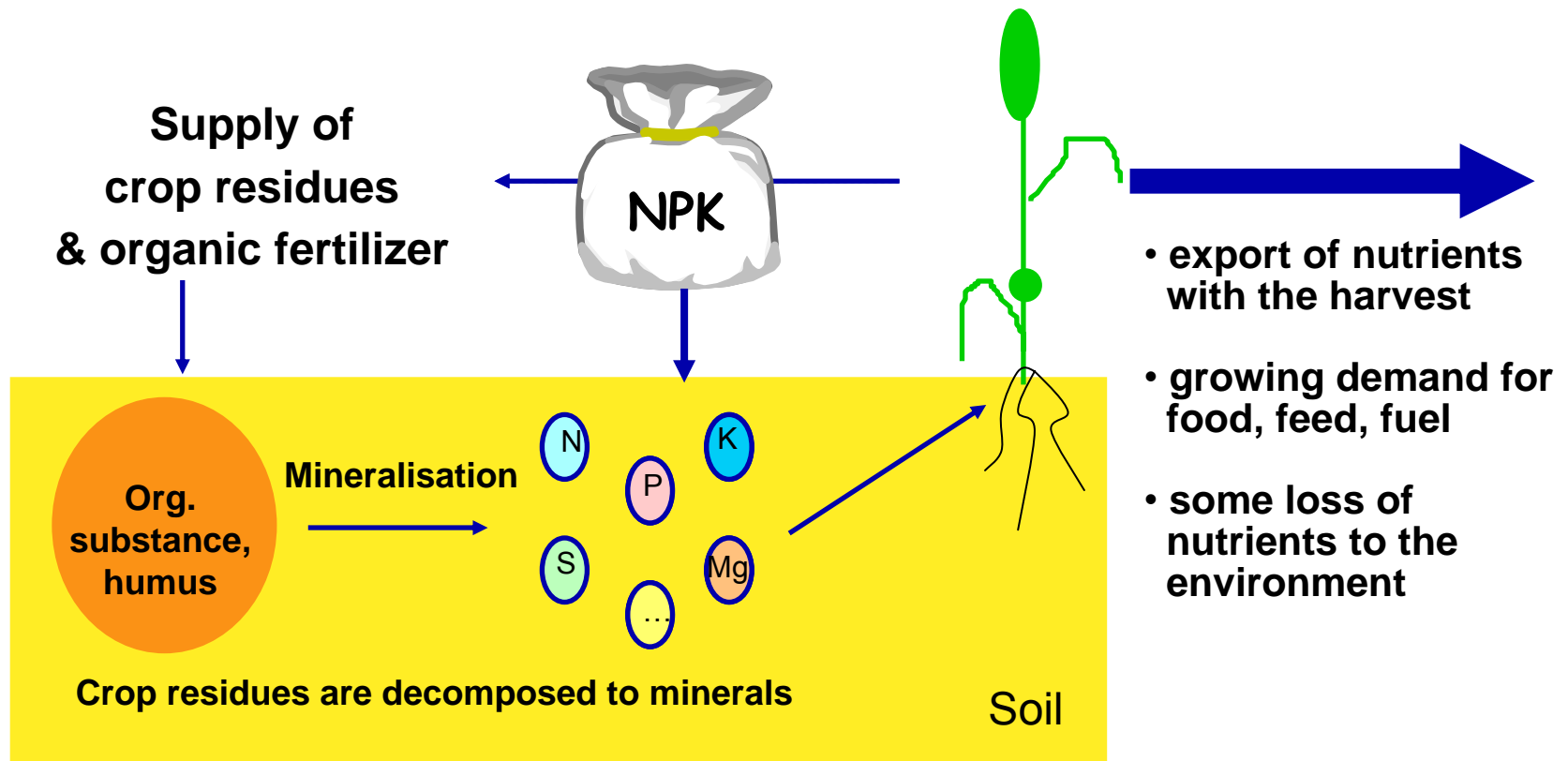
- World population increases up to 8.27 Bio people in 2030.
- In the same time the arable area can only be extended by about 7%.
- Thus, the arable area per person decreases rapidly.

Source: FAO (2003): World Agriculture: towards 2015/2030. An FAO Perspective. Ed. Jelle Bruinsma, Earthscan Publications Ltd, London.

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Mineral fertilizers bridge the gap between soil nutrient supply and crop nutrient demand

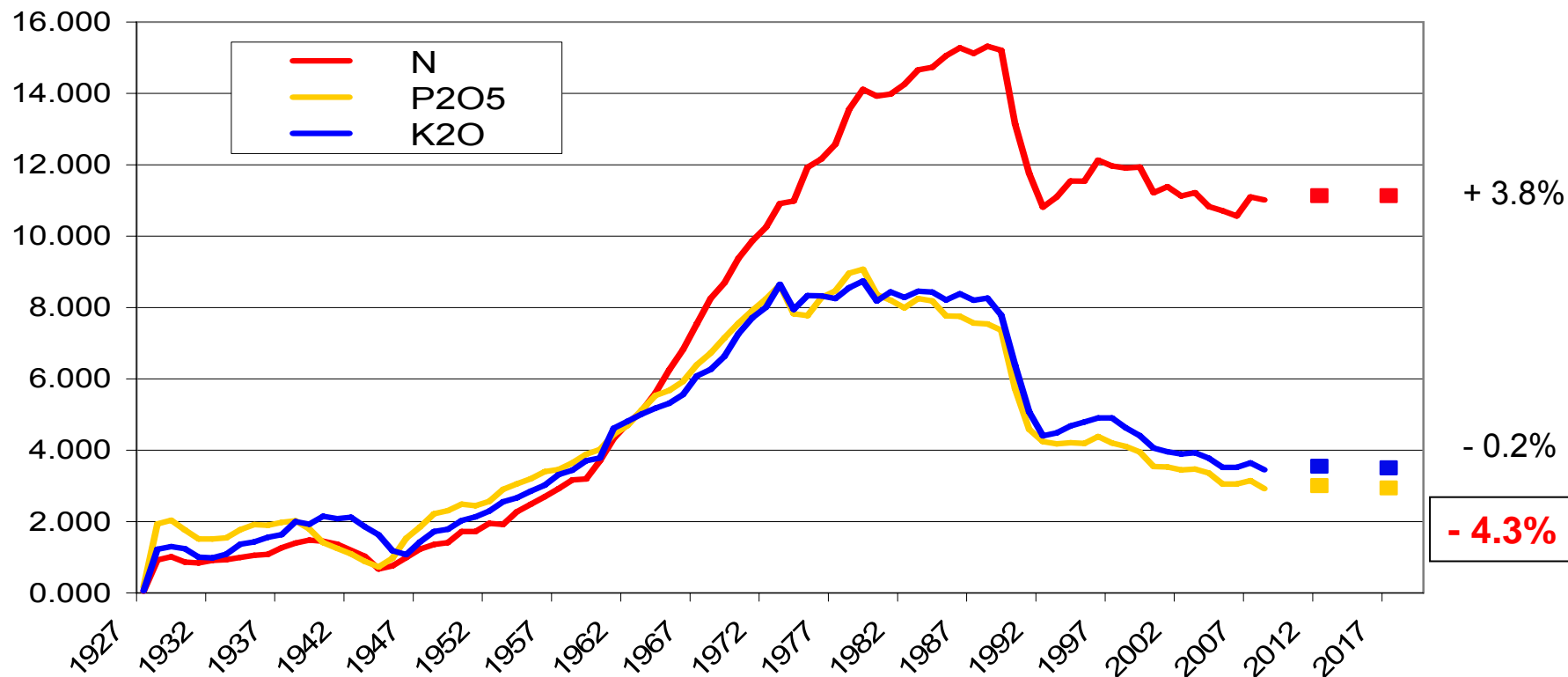


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## Fertilizer nutrient consumption in the European Union 27

Nutrient (million tonnes)

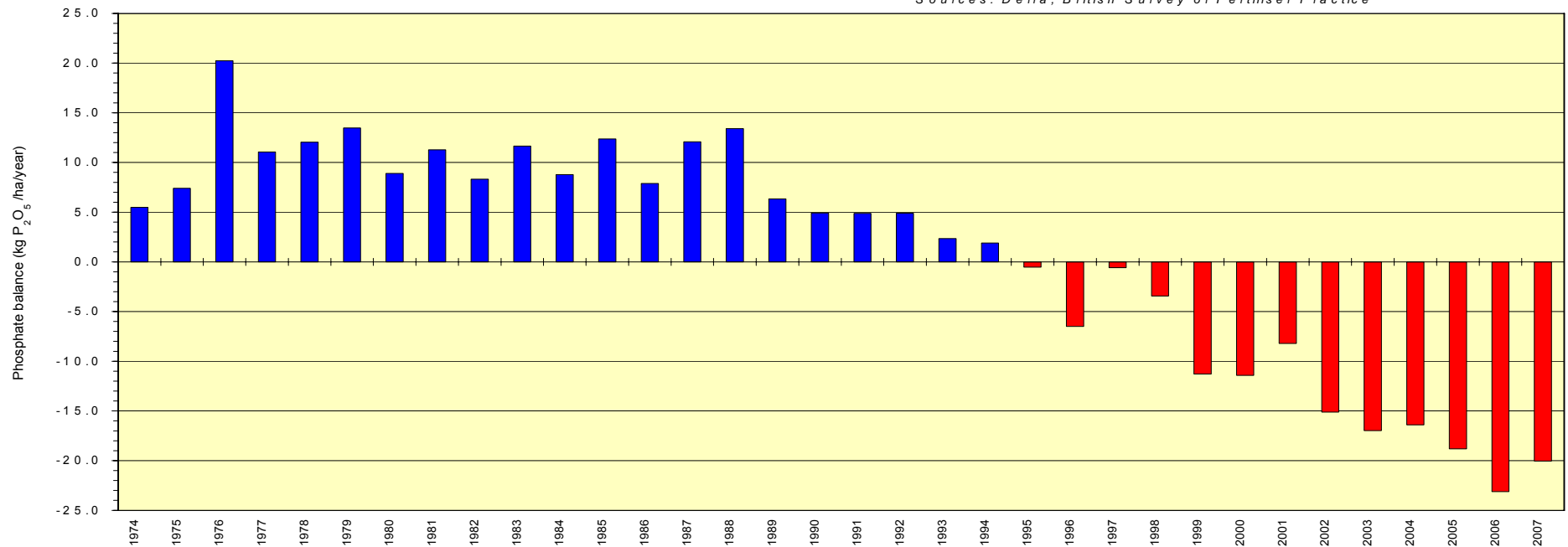


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Overall annual phosphate balances in England and Wales for cereals, oilseed rape, potatoes and sugar beet (excluding manure inputs).

Sources: Defra, British Survey of Fertiliser Practice



**Sharp decrease of phosphorus consumption:**

***EU agricultural productivity under threat***

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## Impact of phosphorus in the environment

- Removal of P by an 8 t/ha wheat crop and straw:  
**30 kg P/ha** (~70 kg P<sub>2</sub>O<sub>5</sub>/ha).
  - Quantity of P in 100 mm through-drainage sufficient to cause this water to be at eutrophic level (35 µg/L):  
**0.03 kg P/ha**
  - The wheat crop has had to take up at least 30 kg P from the soil solution, a quantity 1000 times greater than that which, if lost, could cause environmental concern.
- >> Such a disparity suggests that if P is lost from the normal soil solution there is little that can be done to prevent it.

**Implementation of GAP is essential**

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## The EFMA involvement

*An action plan initiated end of 2002*

- Helping to develop and promoting a **Sustainable Farming System**
  - Able to adapt to all situations of EU agriculture.
  - Which could be included as a “RD quality scheme” in the CAP.
- Integrating development of GAP in our **Product Stewardship Programme**

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## EFMA's *Product Stewardship Program*

### Integrated Nutrient Management

- Launched in 2003
- Covers whole value chain
- Legal & EFMA requirements
- Mandatory to EFMA members
- Regularly audited



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## EFMA Involvement during Past 10 Years

Ensuring the dissemination of GAP to farmers by:

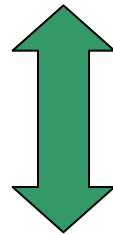
- **Developing collaboration with all farmer associations**
- **Supporting initiatives which aim at developing Sustainable Farming Systems:**
  - **Covering the whole farm activity**
  - **Addressing all farmers and all markets in Europe**
- **Helping these organisations to:**
  - **Improve recommendations for Good Fertilization Practice**
  - **Define a framework for Sustainable Farming Systems at EU level**
  - **Promote and [gain recognition](#) for these systems by the EU farming Community**

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From propagation of GAP to recognition

Communication and Propagation  
of *Good Agricultural Practice*



Recognition of *Sustainable Farming Systems*

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## Communication and Propagation

- **Collaboration with Farmer Associations**

- We support associations promoting Sustainable Farming Systems, such as:

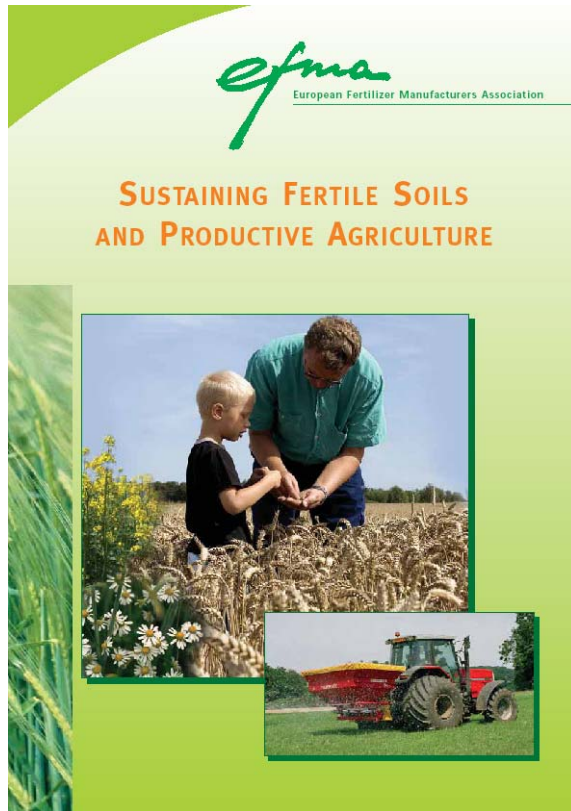


>> Improving recommendations for Good Fertilization Practice

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## Communication and propagation



## A communication towards Policy Makers, addressing:

- **Good Fertilization Principles**
- **Tools to help farmers**
- **Practical examples in EU farms**

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## Communication and Propagation



**Toward the General  
Public:**

**Developing awareness on**

**Good Agricultural Practice**



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## Conclusions

- Improving Good Fertilization Practices:  
    >> **A continuous development**
- Communicating and propagating Good Fertilization Practice:  
    >> **A necessary step, our current efforts**
- Developing Product Stewardship at farm level:  
    >> **Our challenge ahead**  
    *to be achieved with EFMA partners*

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Thank you for your attention

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## Annex

### Good Agricultural Practice To avoid P losses

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## Recommendations – 1

- **Identify the critical level of plant-available P for each soil and farming system.**
- **Maintain soils at the critical level of plant-available P appropriate to the soil and farming system.**
- **Always take soil samples at the same time of year, to the same depth and take not less than 16 cores to provide a bulk sample.**

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## Recommendations – 2

- Do not allow plant-available soil P values to increase much above the critical value.
- When assessing the field specific requirement for P fertiliser, farmers should consider not only the existing soil P level but calculate possible contributions from other sources of P, like organic manures.
- Improve the recycling of P within the soil – plant – animal system because P is a finite resource.

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## Recommendations – 3

- **Use all organic manures in accordance with Codes of Good Agricultural Practice.**
- **Do not apply P, either as fertilisers and manures, to cracking soils while the fissures remain open.**
- **Consider the advantages/disadvantages of placing P fertilisers below the soil surface, especially on light textured arable soils.**

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## Recommendations – 4

- **Do not apply P, either as fertilisers or manures, to soils that are dry and hard or saturated with water.**
- **Maintain a surface cover of vegetation for as much of the year as possible.**
- **Maintain the structural stability of a soil by timely cultivations and by minimising traffic over the soil surface and poaching by livestock.**

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## Recommendations – 5

- **Minimising soil erosion by water and wind is an essential step to minimising the transport of P to water.**
- **A better understanding of the relation between forage maize yield and its requirement for P is essential.**
- **On non-calcareous soils (*i.e.* soils with a pH less than 7) maintain the pH of arable soils at pH 6.5 and grassland soils at pH 6.0**

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## Recommendations – 6

- **Recognise that the transport of P will not be uniform over a whole catchment and that the most vulnerable areas must be identified and remedial measures concentrated in those areas. This is key to managing a problem of P loss.**