Tomorrow’s agricultural nutrient management and fertilisation

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Who is Fertilizers Europe?
EU Fertilizer industry in numbers

- **Turnover:** 10.9 billion euro*
- **Total investment:** 1.3 billion euro*
- **Total employment:** 78,500 people
- **Production sites:** > 120

* Annual average last 5 years, source: Fertilizers Europe 2017/18 overview
1. Tomorrow’s challenges for farmers
What is the situation?

Unusual weather conditions
Farmer’s profitability under pressure
Environmental constraints
Nutrient Management is in the focus

CAP reform introduces Farm Sustainability Tool for nutrients

- In the Cross-compliance/GAEC framework
- Combined with nutrient reduction targets (N-surplus)
- Will provide on-farm decision support on nutrient management
- Objectives: improve water quality, reduce N₂O emissions

More details via delegated acts from the EU Commission
Linked to key environmental issues

Water quality

Air quality

Climate change
In this context not everyone sees fertilizers the same way.

Food security
I am a little obsessed with fertilizers.
Two out of every five people on Earth today owe their lives to the higher crop outputs that fertilizer has made possible. It helped fuel the Green Revolution, an explosion of agricultural productivity that lifted hundreds of millions of people around the world out of poverty.

- Bill Gates -

Environmental concerns
Too much fertilizer on the field, only means more nitrate in the water and less money in your pocket.

- German Federal Ministry of the Environment -
2. How mineral fertilizers can help
The way forward for our industry

- Optimize Nutrient Use Efficiency, product choice
- Use all available tools to minimize environmental impacts: Additives, Precision farming, combination with other fertilizing products,...
- Maximize knowledge per hectare
Smart farming: N Management tools

- Direct and accurate Nitrogen fertilisation advice to the farmer in just a few minutes

- Advice result (kg/ha) / Measurement quality / comparison between measurements and reference zone displayed on personal device

- A mean to reach higher yields and increase protein quality of the wheat harvest
What can growers achieve with smart farming?

• New technological solutions are used to collect all possible data, which are then combined with advisors’ experience

• Accurate reports are produced to allow farmers to use the right product, at the right rate in the right place and at the right time

• Preliminary results:
  • Decrease of inputs/ha,
  • Increase of yield (+0.44t/ha) and proteins (+0.5 pt/t)
  • Better detection of agronomic problems
3. EU Framework
New developments to expect in mid-term

- New EU fertilizer Regulation
- Circular Economy
- CAP reform
Revision of 2003/2003 Regulation

Inclusion of all fertilising product in the scope

Circular economy

EU recognised Circular Economy as a key driver for the European Industry

Since December 2015 ➔ New Circular Economy Package

• Series of actions to stimulate Europe’s transition towards CE
• Ambitious targets to be achieved by 2030
• Covers a broad range of issues in the whole industrial value chain from production to consumption, remanufacturing, waste management and secondary raw materials
Circular economy is already a reality
Phosphorus recycling in mineral fertilizers

Recovery of P from
- Struvite
- Ashes from mono-incineration (sewage sludge, meat-and bone meal ashes)

Production of high solubility mineral fertilizers with known release curve
Potential of recycling should not be overestimated

Source: Ian Richards
NOTE: mineral fertilizers from Fertilizers Europe forecast, livestock manures calculated from animal numbers from Fertilizers Europe forecast and waste sources from Eurostat
4. IMPACTS FOR THE FUTURE?
More choices for farmers

More fertilizing products covered than today

More combinations of different products will be possible

But agronomical efficacy should remain the objective
Mineral fertilizers consumption will not decrease

* 10-year forecast in comparison with reference years (average of 2014/15, 2015/16, 2016/17)
Even if trend is different between EU15 and EU12

* 10-year forecast in comparison with reference years (average of 2014/15, 2015/16, 2016/17)
5. CONCLUSIONS
Which future for European mineral fertilizers?

- Growing awareness of farmers
- Expectations from food chain
- Policy incentives
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