Introduction and Overview

Best practices in improving the sustainability of agriculture

Expo Milan, 6 July 2015

Joint Research Centre and Directorate-General for Environment

BEMP on Fertiliser Management

— An Example From The Agricultural Sector —

The BEMP on fertiliser management provides:

Practical guidance

• How to produce a nutrient management plan
• Selection of lower impact fertilisers
• Precise application of nutrients

Environmental performance indicators

• Field nutrient surplus (kg/ha/year)
• Nitrogen use efficiency (%)

Benchmarks of excellence

• The fertiliser nutrients applied do not exceed the amount required to achieve the “economic optimum” crop yield.
• Field nutrient surplus or nutrient use efficiency are estimated for nitrogen, phosphorus and potassium for individual fields.

Ammonia Emissions

30% of European ammonia emissions arise from the storage and application of manure and fertilisers.

GHG Emissions

Over 2% of total UK greenhouse gas emissions are due to artificial fertilisers.

Eutrophication of surface waters

Agriculture accounts for 70% of nitrogen entering EU rivers and lakes. The main source is application of manure and fertilisers.

BEMPs for 11 sectors

The European Commission cooperates with experts and stakeholders from different sectors to identify BEMP. As a result of this cooperation, Sectoral Reference Documents for 11 sectors are currently under development.
The EMAS SRD for Agriculture sector – Crop and Animal Production

- **10 areas**
- **47 BEMPs**

**Target group:**
- Farmers
- Farm advisors
- Other agriculture stakeholders (including e.g. agriculture students)

**Overview of the Agriculture BEMPs**

1. **Sustainable farm & land management**
   - Resource-efficient food production
   - Land management to provide other ecosystem services
   - Engagement with consumers to encourage sustainable consumption

2. **Soil quality management**
   - Assess soil conditions
   - Maintain/improve soil organic matter
   - Maintain soil structure
   - Soil drainage

3. **Nutrient management**
   - Field nutrient budgeting
   - Crop rotations
   - Precise nutrient application
   - Selecting lower impact fertilisers

**Applicability**

<table>
<thead>
<tr>
<th>Applicability</th>
<th>Dairy</th>
<th>Beef &amp; sheep</th>
<th>Pig &amp; poultry</th>
<th>Arable crops</th>
<th>Horticulture</th>
<th>Intensive</th>
<th>Extensive</th>
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<tbody>
<tr>
<td>Applicability</td>
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Overview of the Agriculture BEMPs

4. Soil preparation and crop planning
- Crop rotations and cover/catch crops
- Minimising soil preparation (tillage)
- Low impact tillage operations

5. Grass and grazing management
- Maintaining productive grassland
- Maintaining biodiverse grassland
- Efficient silage production

6. Animal husbandry
- Achieve high feed conversion and N use efficiency
- Green procurement of feed
- Herd health and profile management

7. Manure management
- Efficient housing
- Appropriate slurry storage
- Anaerobic digestion
- Efficient slurry application

8. Irrigation
- Minimising irrigation demand
- Irrigation management / scheduling
- Controlled irrigation techniques

9. Crop protection
- Dynamic crop protection management
- Crop protection products selection

10. Protected horticulture
- Energy management and renewables
- Water management
- Waste management

Interested in learning more about BEMPs?

- Copies of the BEMP reports available
- Information on the state of play for the sectors where work is ongoing
- Information on the methodology and process

- Contact us: [irc-ipts-emas@ec.europa.eu](mailto:irc-ipts-emas@ec.europa.eu)
  - Ask question
  - Provide feedback
  - Share ideas on effective dissemination channels

- Note: the agriculture report will be released soon!

Thank you!

European Commission: Joint Research Centre and Directorate-General for Environment

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