Experiences in the development of policies and regulations for manure management – Europe: the Netherlands

Workshop
reduced discharge – towards full recovery of nutrients and energy from animal manure

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Introduction

Goal of presentation:
• an overview, in a nutshell
• of the EU/Dutch government’s policies
• aimed at solving the problems caused by large surplus of animal manure and high fertiliser use

Content:
• Problem definition
• Need for governmental involvement
• Policy response
• Results so far
• New developments
Nutrient availability and nutrient management in agriculture: problems

• *Excessive production and use* of nutrients in some regions in the world:
  ➢ threat to public health: nitrates in drinking water
  ➢ threat to quality of environment and nature: eutrophication

• *Shortage of available nutrients* in other regions:
  ➢ insufficient agricultural production → food insecurity, poverty

• *Exhaustion of resources* in the longer term
production and use of animal manure in The Netherlands in 2010

<table>
<thead>
<tr>
<th>animal manure production</th>
<th>phosphate in animal manure</th>
<th>phosphate excretion per ha</th>
<th>phosphate use in agriculture</th>
<th>phosphate use in agriculture per ha</th>
</tr>
</thead>
<tbody>
<tr>
<td>billion kg</td>
<td>million kg</td>
<td>kg/ha</td>
<td>million kg</td>
<td>kg/ha</td>
</tr>
<tr>
<td>72.2</td>
<td>178.9</td>
<td>99</td>
<td>142.8</td>
<td>79</td>
</tr>
</tbody>
</table>

Source: Netherlands Statistics, 2012
Manure management policy in The Netherlands - context

The Netherlands:
• highly developed and densely populated;
• 1.8 million hectare of agricultural land;
• in fertile delta with favourable climate for many types of agricultural production;
• large livestock sector (dairy, pork, poultry);
• highly developed agricultural research infrastructure;
• number 2 exporter of agricultural produce in the world (2011).

Goal of Dutch government for agriculture: a world-class agri-food sector, that can be further strengthened through investment in innovation and sustainability.
Policy response (1): need for governmental action in NL?

in regions with very high livestock farming intensity and resulting large manure production like NL:

manure = ‘waste’ product with negative value

Negative price for animal manure

⇒ incentive for farmers for excessive use of livestock manure
⇒ negative effects on quality of air, soil, water (increasingly visible in 1980’s)
⇒ diminishing support in society for intensive (livestock) farming practices (present)
Conclusion: market failure, need for governmental action
Policy response in the Netherlands: the stick and the carrot
Policy response: **the stick** and the carrot

Strict regulations/standards for farms and farming practices (starting in 1980s):
- limits to the number of livestock/amount of manure produced
- strict spatial planning
- regulations and standards for fertiliser/manure use implementing best farming practice (partly based on EU-laws)
- regulations for livestock manure transports
- standards for ammonia, odour and dust from animal housing using ‘best available techniques’ (partly based on EU-law)

*Legislation in preparation: in future, for livestock farmers with manure surplus at farm level: obligatory manure processing or manure export*

Not only words, also actual use of the stick: monitoring, control, warnings and fines
Policy response (2): **the stick** and the carrot
Policy response: the stick and **the carrot**

- **(co-)financing** research into and development of innovative new technologies and (management) techniques

- **Subsidies** (partly financed from EU-funds) and **fiscal measures** to stimulate investments in new techniques and better management

- **Knowledge dispersal** through demonstration projects, counselling and farmers’ networks
Results so far

• Short term: higher costs for (livestock and arable) farmers, with impact on their income and competitiveness

• Stimulus for (technical and management) innovation in fields like:
  • low emission (ammonia, odour, dust) animal production buildings, manure storage and manure application techniques
  • manure processing and new types of fertilising
  • feed management
  • precision fertilisation

• Higher resource efficiency: same or more output of produce with less input of nutrients

• Considerable improvement of environmental quality in NL since 1995
Developments in NL/EU:

• Change in problem definition:
  – more integral approach towards (environmental) problems related to surpluses of nutrients (water and air quality, greenhouse gasses, animal welfare);
  – problems related to future availability of nutrients \( \rightarrow \) resource efficiency as a new theme for policy makers

• Responsibilities:
  – creating innovative, sustainable agriculture is not sole responsibility of government, but joint responsibility of business (farmers, their suppliers, processing industry), society and government.
  – further development of knowledge needed to make steps forward
More information?

• Facts and figures on Dutch agriculture:
  http://www.lei.wur.nl/UK/publications+en+products/LEI+publications/?id=1254

• EU environmental policies and agriculture (including links to water and air directives):
  http://ec.europa.eu/environment/agriculture/index.htm

• Dutch fertilisers policy:
  http://english.minInv.nl/portal/page?_pageid=116,1640378&_dad=portal&_schema=PORTAL

• EU plans on resource efficiency:
  http://ec.europa.eu/environment/resource_efficiency/index_en.htm

• Example of joint responsibility for realising a resource efficient economy: Dutch phosphate value chain agreement:
  http://www.nutrientplatform.org/
Thank you for your attention!