

Ministry of Infrastructure and Water Management



Towards a circular and sustainable agriculture in the Netherlands

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# OUTLINE

- Livestock and manure: Situation in the Netherlands
- Nitrate and Phosphate
- Dutch Policy
- Manure processing
  - Dutch incentives and future developments Summary
    - **Useful links**



### Situation in the Netherlands

- Intensive livestock sector
- Dairy cattle: significant growth (End of EU milk quota)



- Growth manure production: 2012-2015
- Challenges to cope with manure surplus and impacts





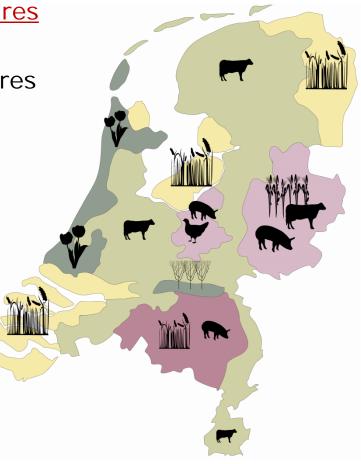
#### Agriculture in The Netherlands Total agriculture land: 2.000.000 hectares

**Grassland and fodder**: 1.200.000 hectares Situated in North and West

**Arable land**: 500.000 hectares Situated in South-west and North-East

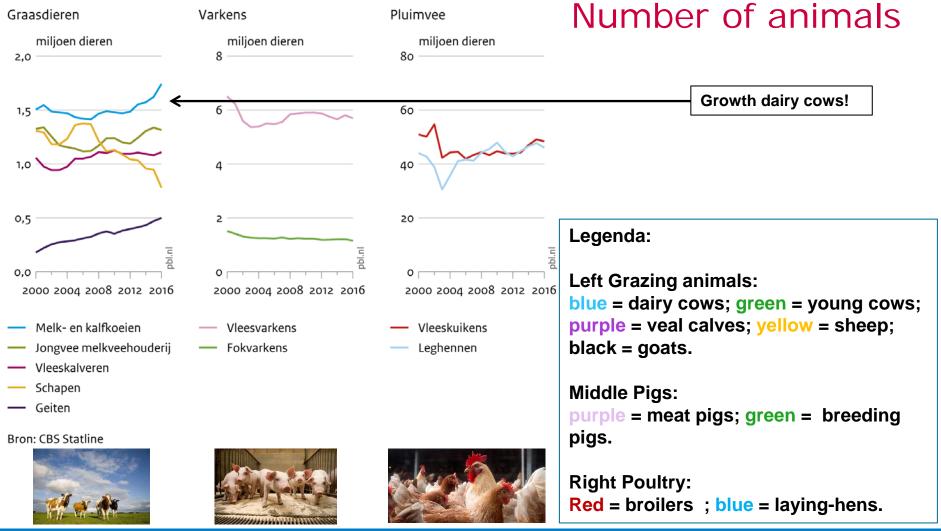
Horticulture: 10.000 hectares

**Intensive Farming**: little land Situated in the South and East





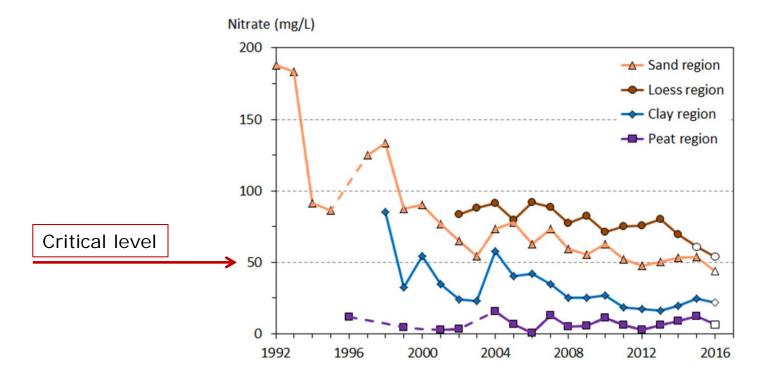
#### **Omvang veestapel**



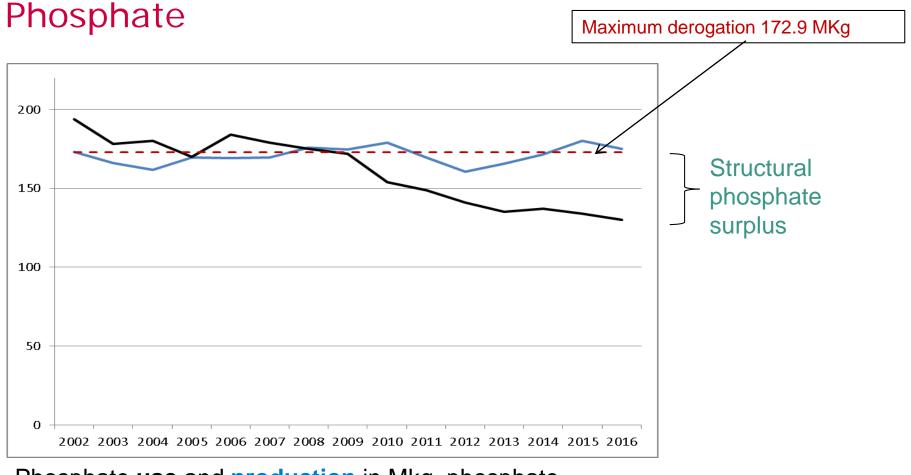


#### Nitrate

• Levels of nitrate in groundwater







#### Phosphate **use** and **production** in Mkg phosphate



### Fertilizer policy in the Netherlands

#### Goals

- Good agricultural practices
- Clean Groundwater
- Clean Surface water
- Healthy soil

#### Legal instruments

- EU-Nitrate Directive
- EU-Water Framework Directive
- EU-Fertilizer Regulation
- National Fertilizer Act



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### EU context

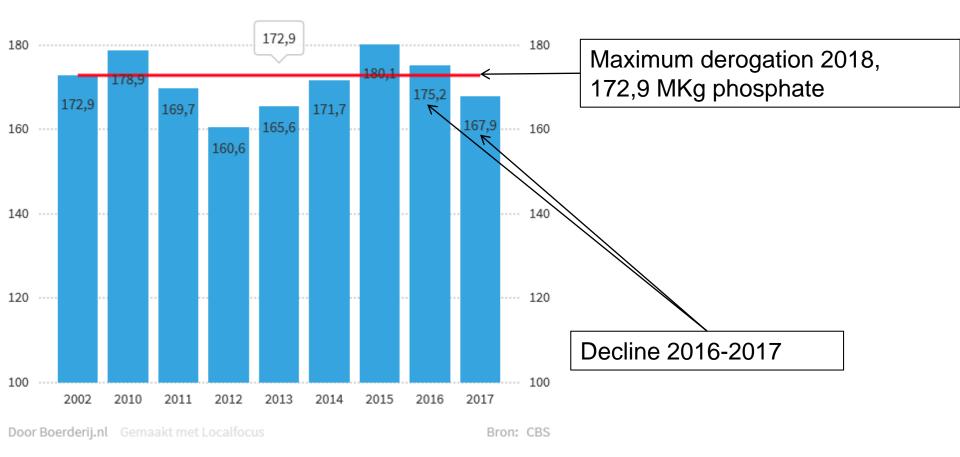
- Water Framework directive- Nitrate directive Fertilizer regulation
- Derogation (EU): nitrate 170 → 230/250 kg N/ha (2018, 2019); maximum 172,9 MKg phosphate production (level 2002) no consequences for water quality

#### Serious measures:

National Nitrate Action Programme Phosphate Reduction Plan Mandatory tradable Phosphate rights (dairy cows) More land based livestock farming



#### Recent decline phosphate production





### Mandatory processing of animal manure

Mandatory processing of animal manure

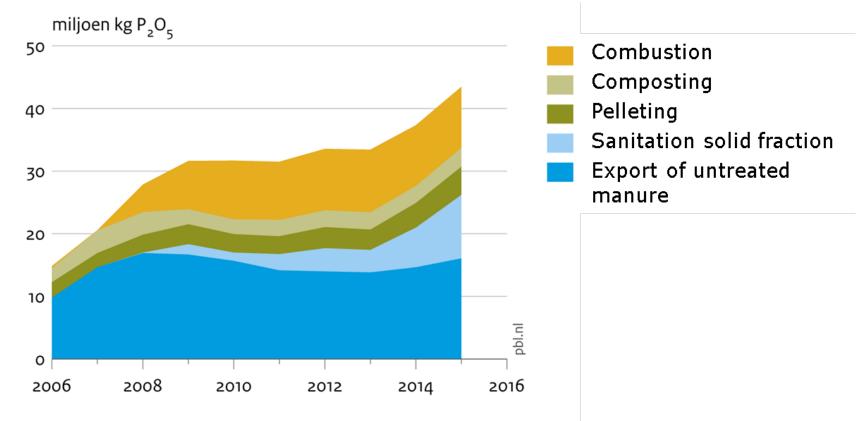
- Destination outside Dutch agricultural sector
- Obligation for individual farmers with phosphate surplus
- In 2017 whole surplus is mandatory processed on national level







### Growth in processing of animal manure



Bron: CBS; bewerking PBL



#### Future developments in manure processing

- Increasing the manure processing capacity
   o Prediction for 2018 is 55,3 million kg P<sub>2</sub>O<sub>5</sub>
- Increase the quality of manure processing

   To produce high quality products
   To be less depend on market fluctuations
- Development of new markets:

   New and better suited products
   New export markets



#### Future developments EU

EU announced to:

- Develop criteria for the use of processed manure in the context of the Nitrates Directive
- This work would entail several tasks:
  - I. Inventory of existing manure processing technologies and products
  - II. Definition of agronomic criteria
  - III. Definition of environmental criteria

Joint Research Centre will start this research.



#### **Dutch incentives**

- Research, pilot and demonstration projects
- Cooperation: Sector, Dutch Nutrient Platform, Dutch centre for valorisation of manure (NCM), dairy industry, ...
- Circular economy programme
- Discussing solutions on the EU level

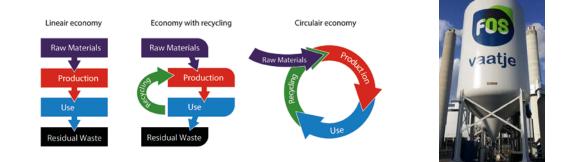




### Dutch Circular Economy Programme

- 100% circular economy by 2050
   50% reduction in use of fossil / mineral resources by 2030 Transition agenda 'Biomass and Food' closing of nutrient cycles - less external fossil inputs [See Presention Renske Verhulst - Monday session]
- Adjustment of the Dutch Fertiliser act: sanatized struvite is allowed as fertiliser in the Netherlands





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### Demonstration projects: Groot Zevert (Systemic)





Pig slurry: recovery of surplus of available minerals.

Low-nutrient manure as organic soil improver (nearby region); recovered calcium-phosphate and ammonia sulphate: secondary resource fertilizer industries.





# Future policy

#### Sustainable agriculture:

- climate, low emissions, nature-inclusive, animal welfare, social-economic position famers
- Circular agriculture (more land based; closing nutrient cycles, no depletion of fossil resources)
- Sustainable soil management (a healthy soil is crucial for production of biomass, feed and food)
- Precision farming
- International: Link with SDGs and EU/CAP



### Summary

- Intensive livestock sector
- NL is working on solutions for manure surplus and excess of nutrients
- On National and EU level
- Development processing of manure
- Research and demonstration projects
- Cooperation with stakeholders
- Circular economy goals: closing of the nutrient cycles and healthy soils
- Future: sustainable agriculture, sustainable soil management.





## Usefull links

- Harm Smit: h.j.smit@minez.nl
- Herman Walthaus: <u>herman.walthaus@minienm.nl</u>
- Dutch Circular Economy Programme: <u>https://www.government.nl/topics/circular-economy</u>



- <u>Wageningen University and Research:</u>
   <u>https://www.wur.nl/en/Dossiers/file/Manure-1.htm</u>
- 'Groot Zevert' project:

https://systemicproject.eu/plants/demonstration-plants/groot-

zevert-the-netherlands/

