



Ministry of Agriculture, Nature and
Food Quality of the Netherlands

Dutch manure policy

*Polish Dutch bilateral
discussion*

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How do you know the Netherlands?





Outline of the presentation

1. Agriculture in the Netherlands
2. Environmental aspects
3. Dutch manure policy
4. Towards a circular Economy
5. Discussion and Questions





Agriculture in the Netherlands





Agriculture in The Netherlands

Total agriculture land: 200.000 hectares

Grassland: 1.200.000 hectares

Situated in North and West

Arable land: 500.000 hectares

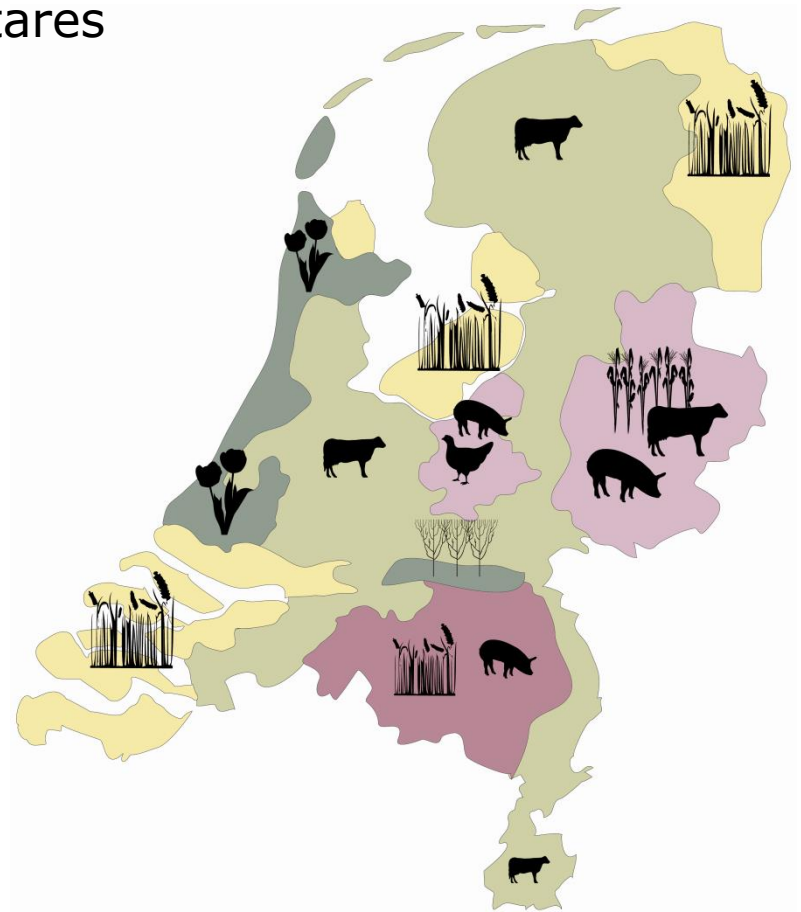
Situated in South-west and North-East

Horticulture: 100.000 hectares

Situated in the West and rivers

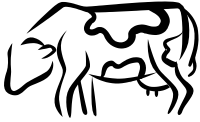
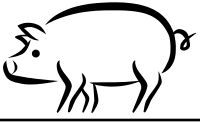


Intensive Farming: little land

Situated in the South and East





Facts & figures – livestock numbers

Animals	2008 - 2011 [million #]
Cattle 	3.9
Pigs 	12.2
Poultry 	97.9
Sheep 	1.1

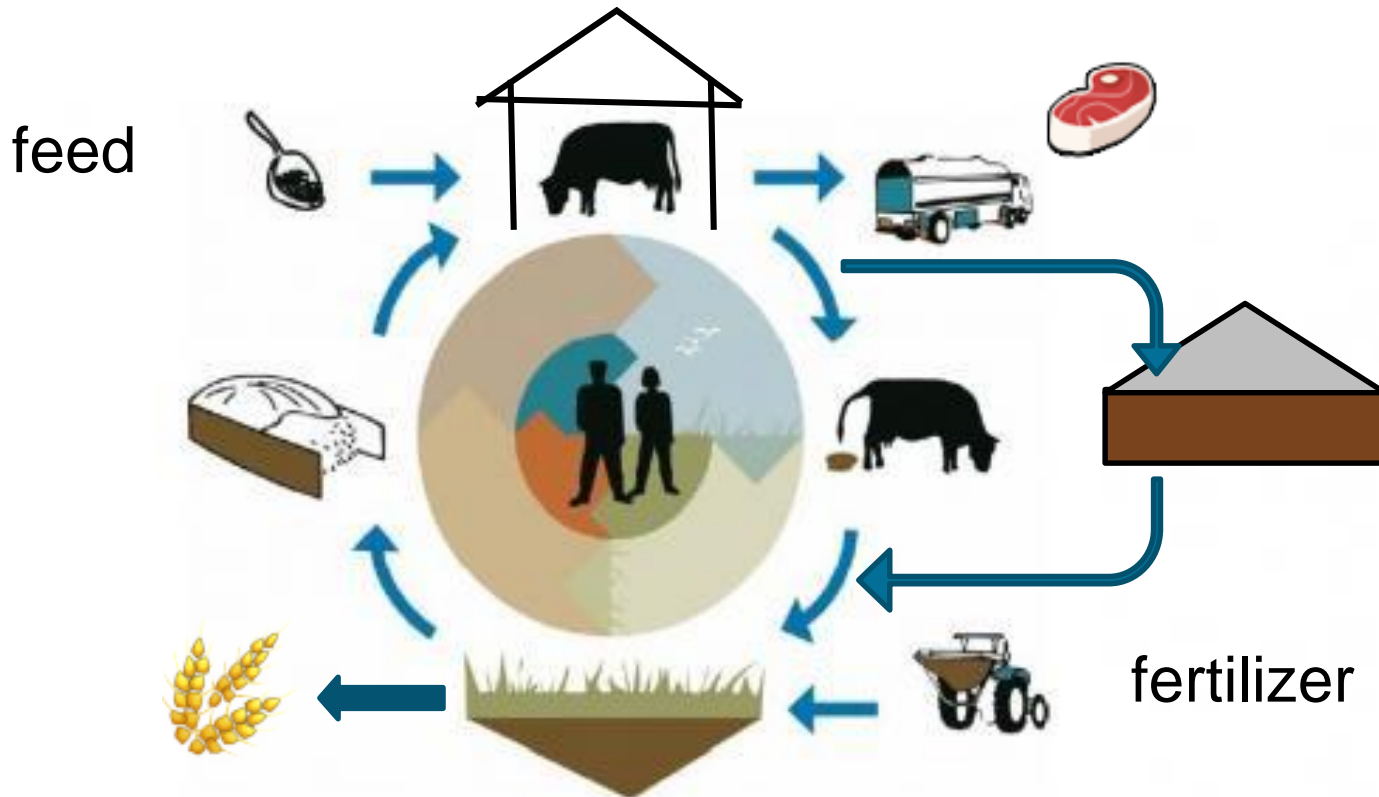


2. Environmental aspects



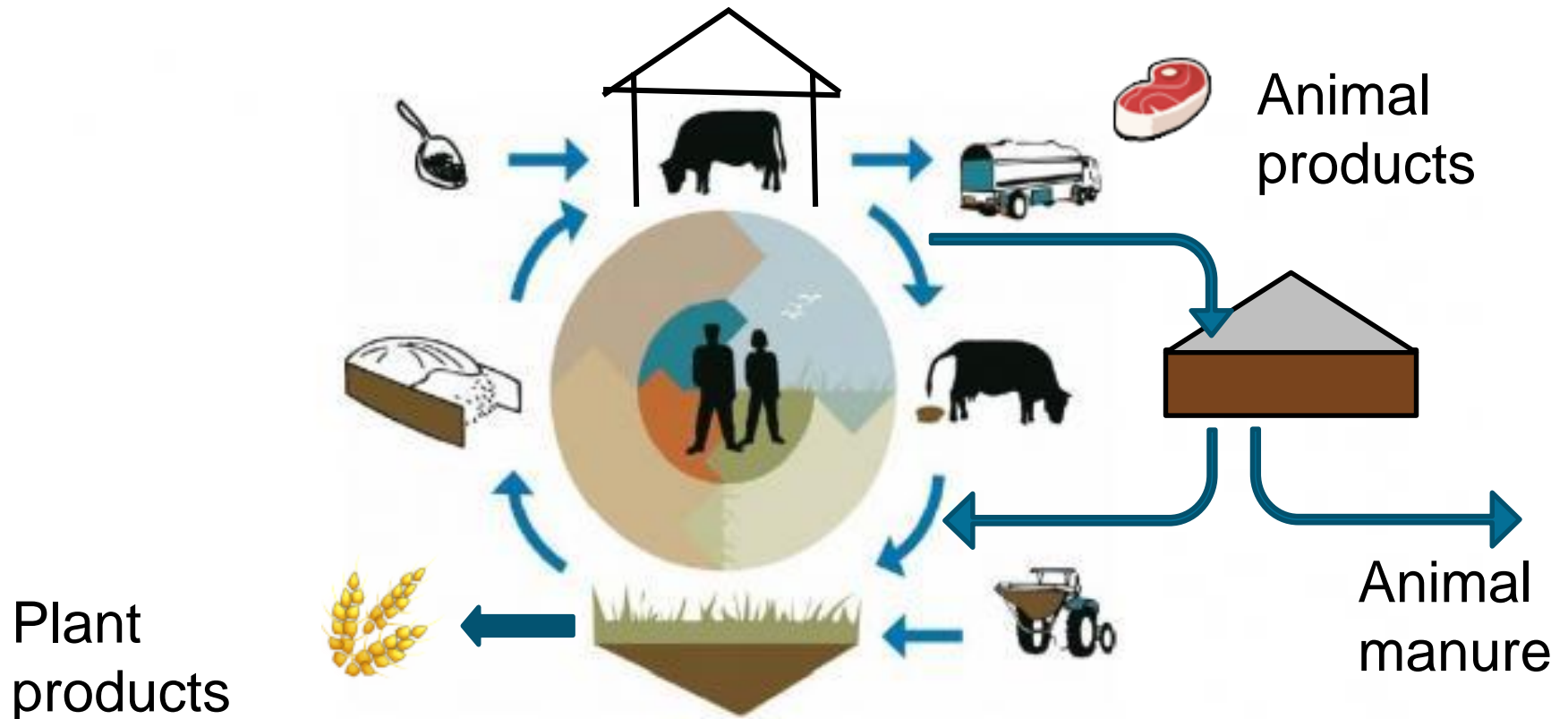


Farm cycle (inputs)

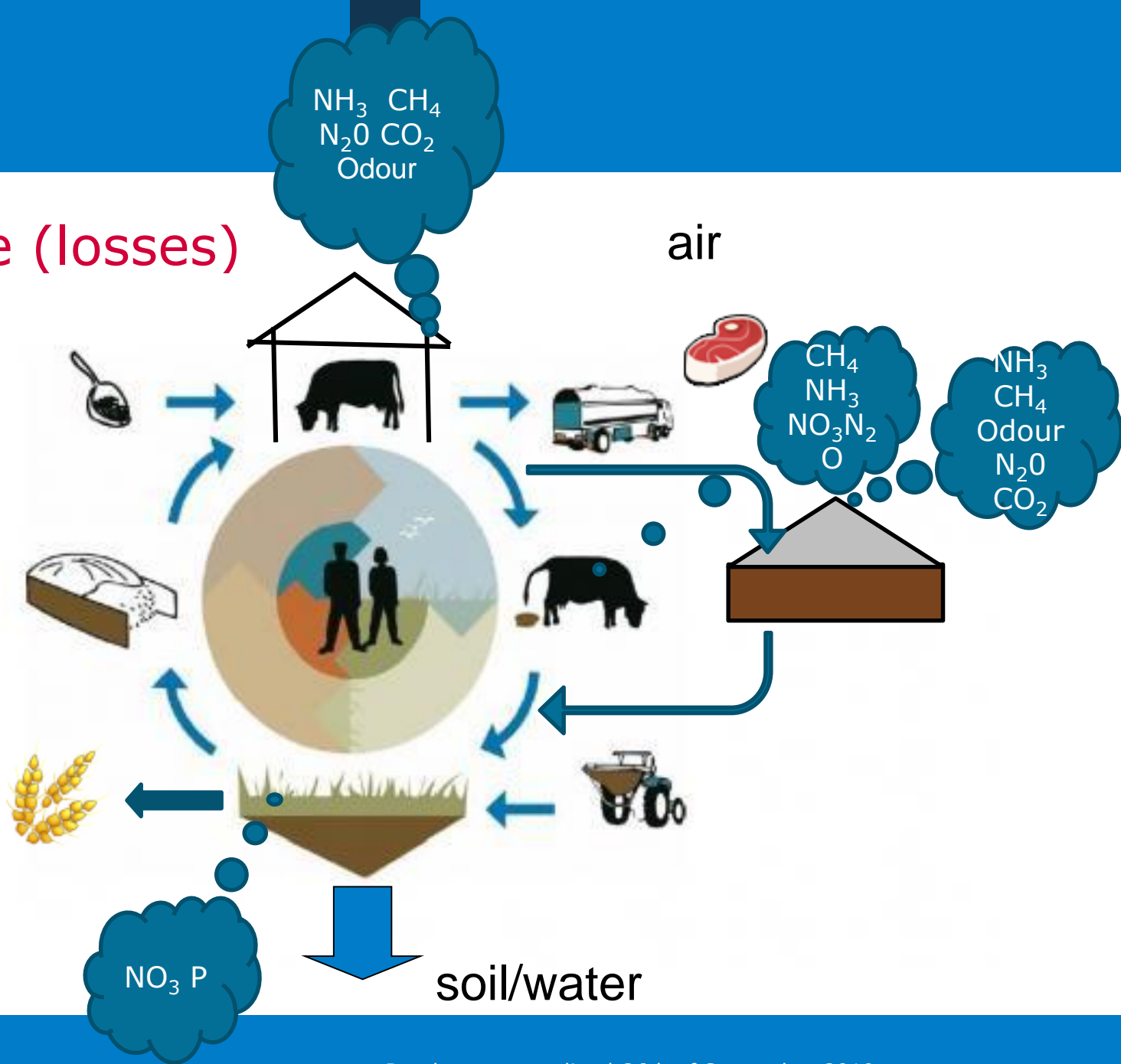




Farm cycle (outputs)

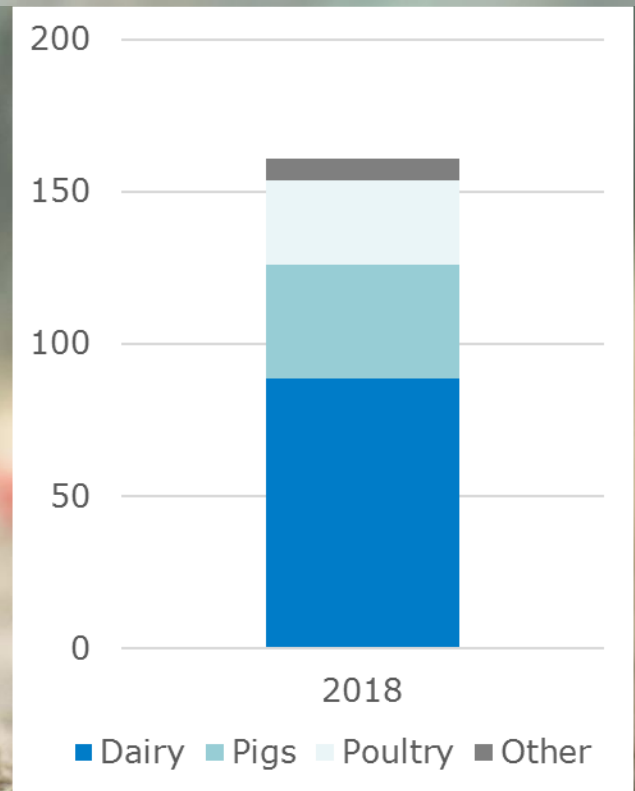


Farm cycle (losses)



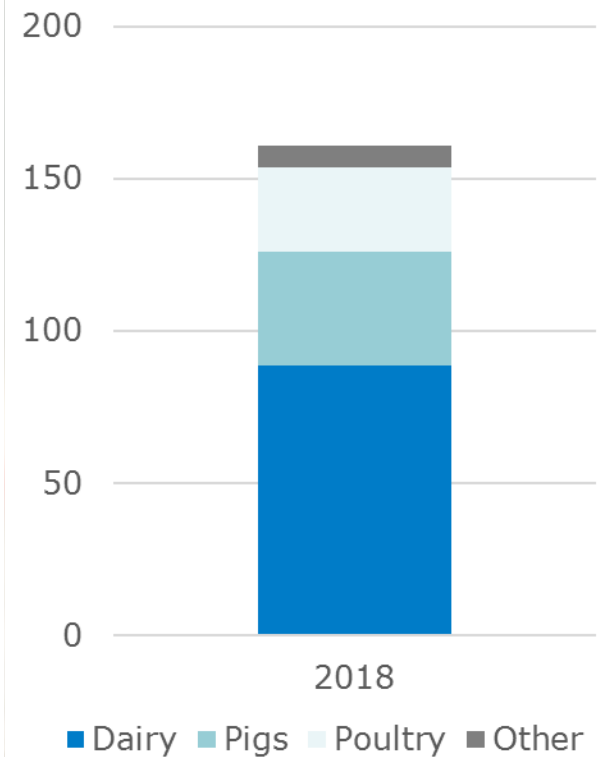
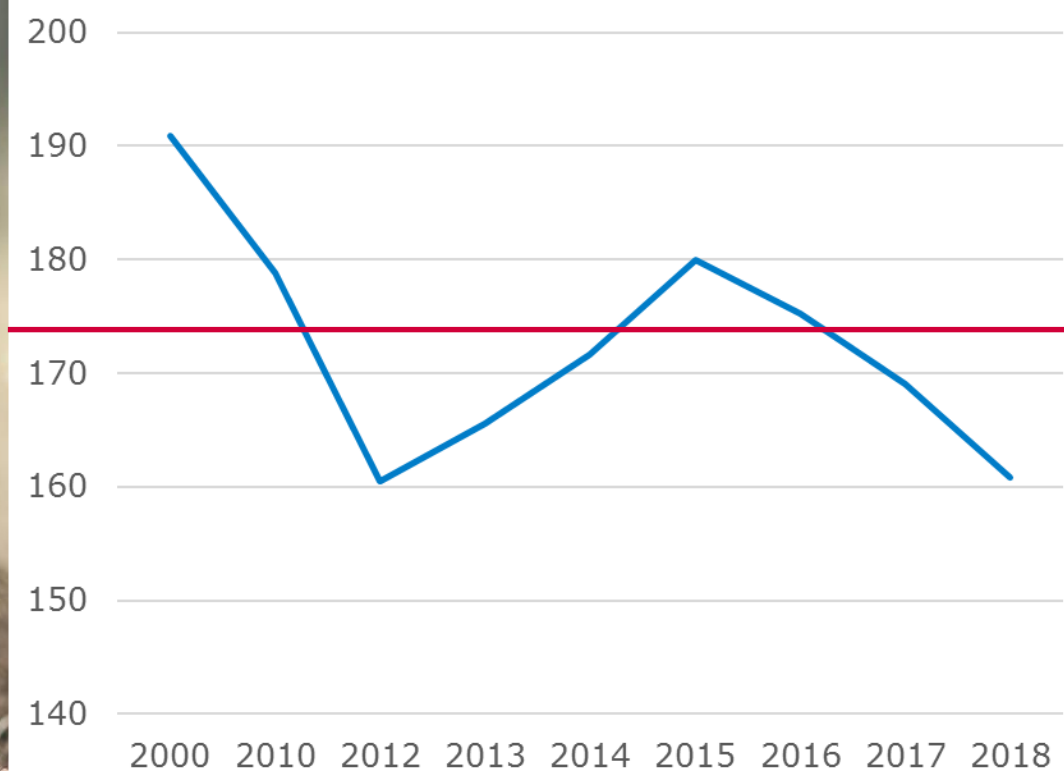


Manure production



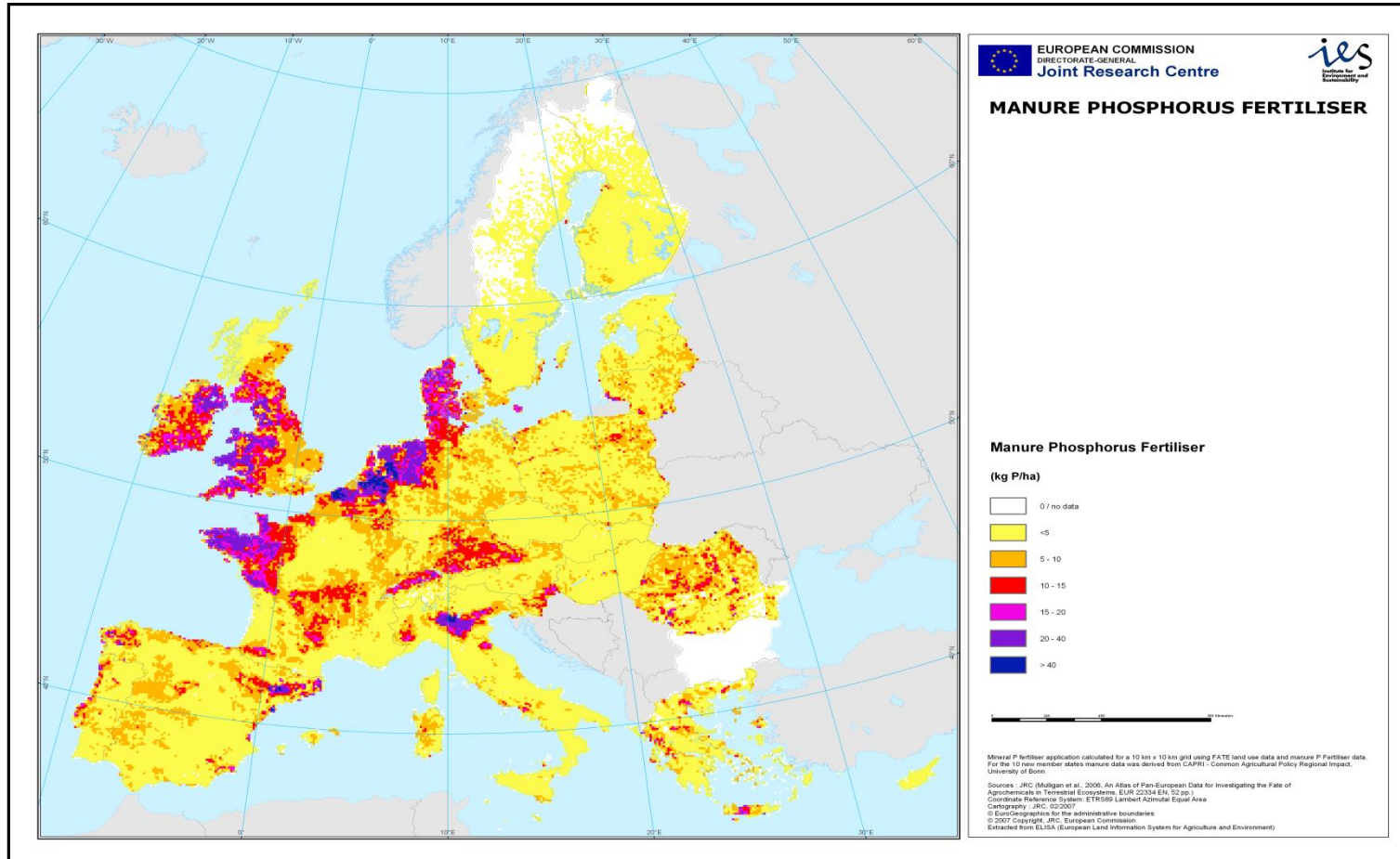


Manure production





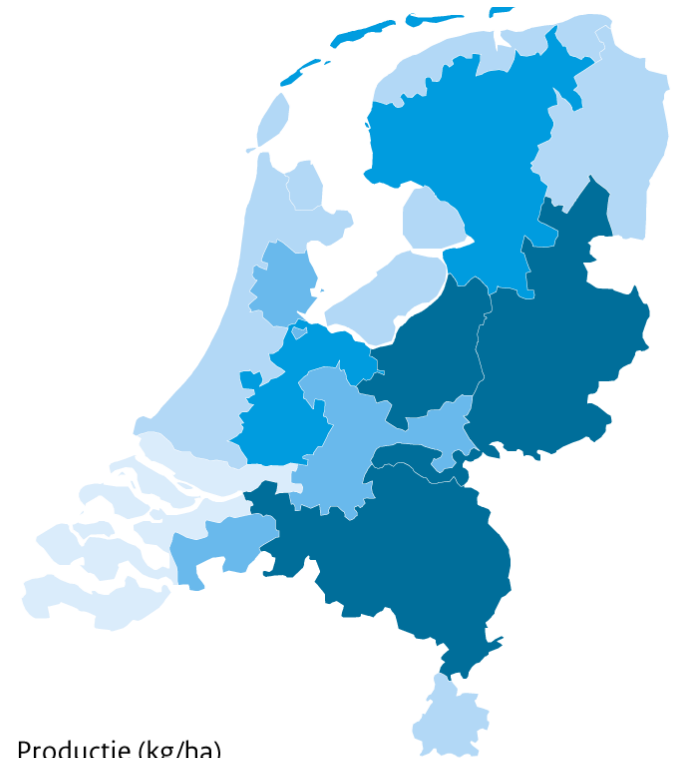
Manure production



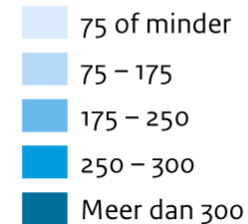


Manure production

- Not equally distributed over the country
- Surplus in South and East
- Related to Pigs and Poultry farming



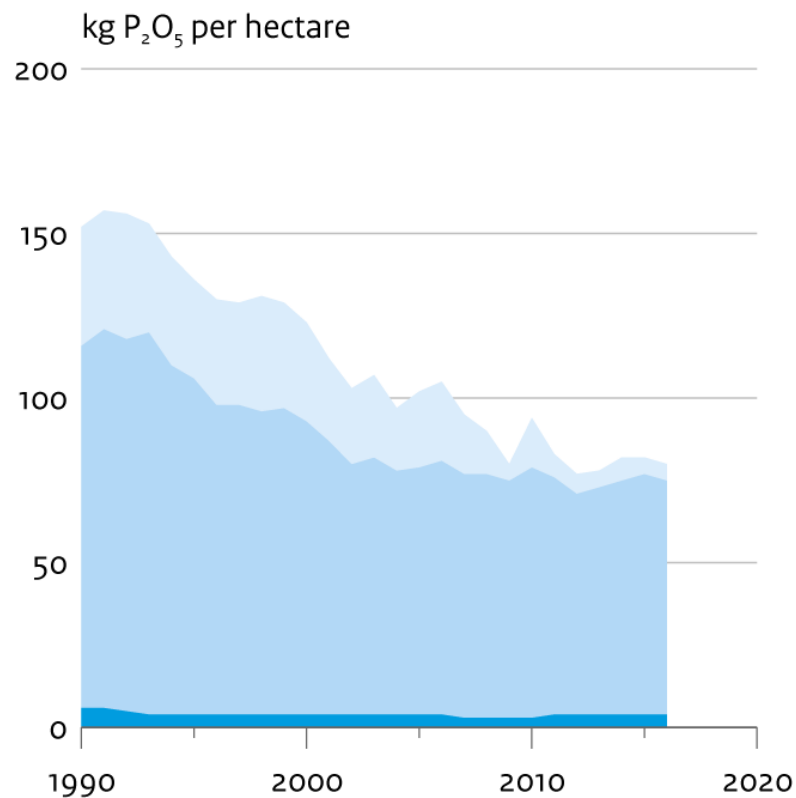
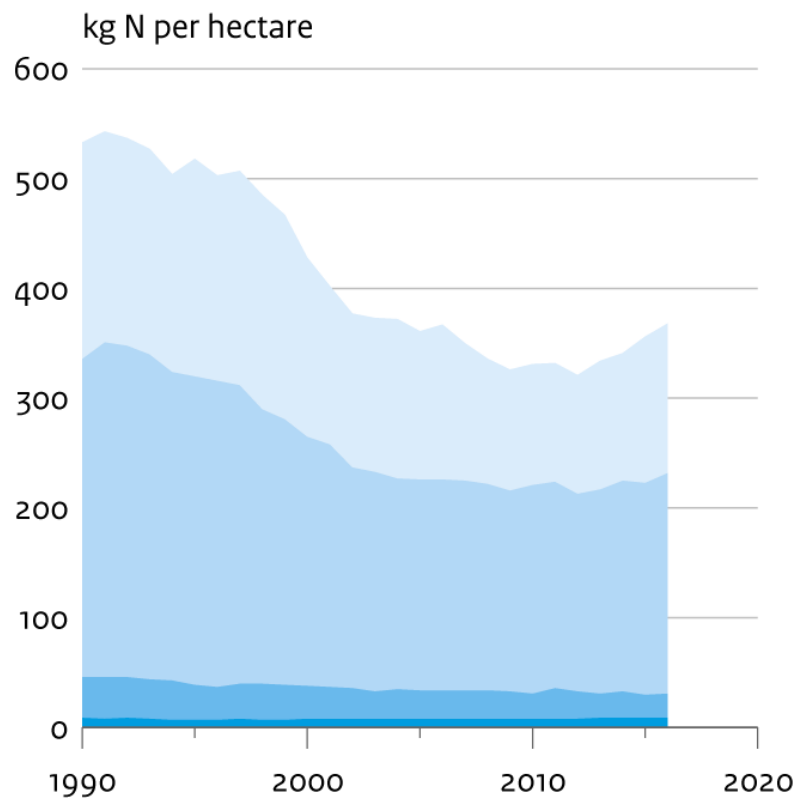
Productie (kg/ha)



Bron: CBS



Use of N and P fertilisers

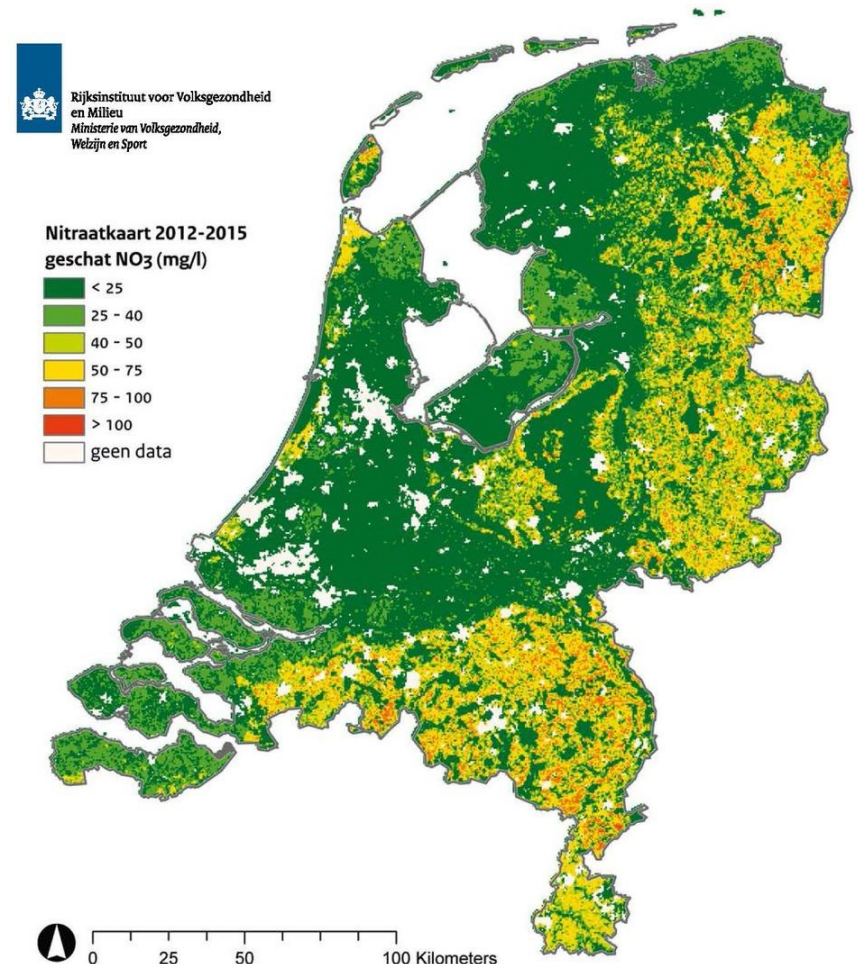


Artificial fertiliser Animal manure Other products

Nitrate

- Nitrate (NO_3) still problematic
- Especially in sandy soils
- Attentionzones:
 - South-East
 - East
- Nitrate in groundwater is a potential threat to the health of the drinking water.

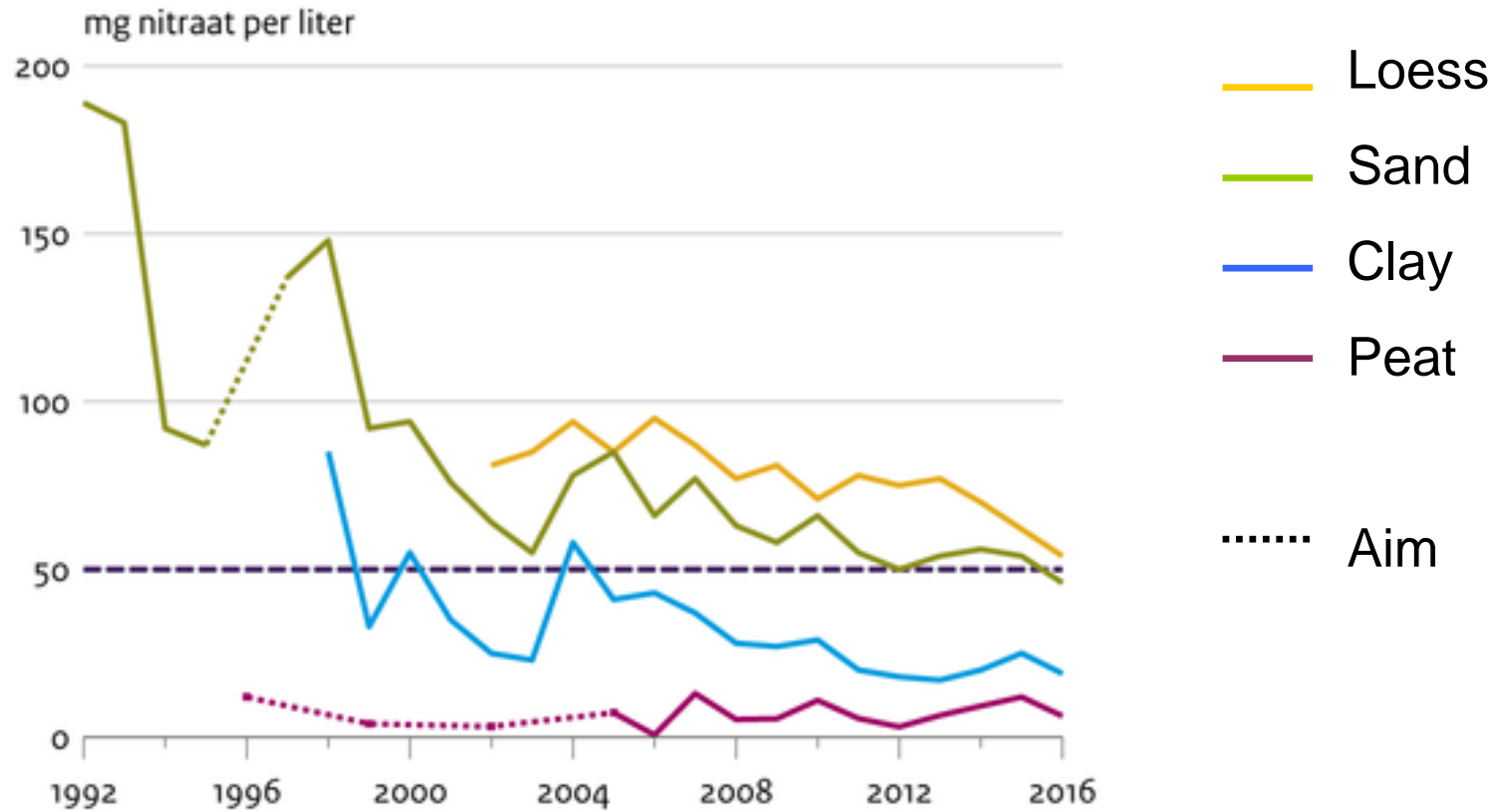
Nitraatkaart 2012-2015



Figuur 1. De nitraatkaart van Nederland (2012-2015).



Monitoring – Nitrate in groundwater



Bron: RIVM LMM



3. Manure Policy - General

- Manure Use
- Manure Production
- Manure surplus





3a. Dutch manure policy – manure use





Application standards

- The maximum amounts of nutrients that could legally be used for fertilizing farmland.
- Application standards for nitrogen, phosphate and nitrogen in animal manure
- Introduced in the Fertilizer Act since 2006





Application standards

- For total nitrogen: differentiated with respect to:
 - Soil type
 - Crop, and in some cases: variety
 - In some cases: yields
- For total phosphate: differentiated:
 - Land use (arable land or grassland)
 - Soil phosphate level





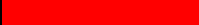


Application standards – phosphate (P_2O_5)

	2006	2011	2013	2015	2017
Grassland					
High phosphate level	110	90	85	80	80
Neutral phosphate level	110	95	95	90	90
Low phosphate level	110	100	100	100	100
Arable land					
High phosphate level	95	70	55	50	50
Neutral phosphate level	95	75	65	60	60
Low phosphate level	95	85	85	75	75



Application regulations – closed periods

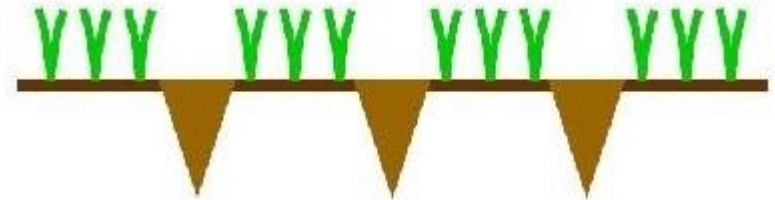
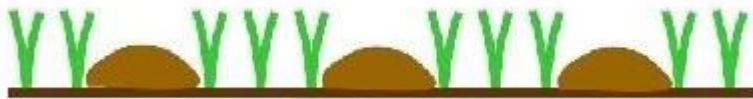
	jan	feb	mar	apr	may	jun	jul	aug	sep	oct	nov	dec
grass on sand	not allowed	not allowed	allowed	allowed	allowed	allowed	allowed	allowed	not allowed	not allowed	not allowed	not allowed
grass on clay/peat	not allowed	not allowed	allowed	allowed	allowed	allowed	allowed	allowed	not allowed	not allowed	not allowed	not allowed
arable land on sand	not allowed	allowed	allowed	allowed	allowed	allowed	allowed	only allowed with catch crop	not allowed	not allowed	not allowed	not allowed
arable land on clay/peat	not allowed	allowed	allowed	allowed	allowed	allowed	allowed	only allowed with catch crop	not allowed	not allowed	not allowed	not allowed
legend												
	application allowed											
	application is only allowed when a catch crop is grown											
	application not allowed											



Low emission techniques

Odour and ammonia emission

Less emissions





3b. Dutch Manure Policy - manure production

- Abolishment of milk quota system – number of cows raised
- Manure production raised.
- NL derogation was at risk

- Reduction of dairy cattle with a Subsidy-scheme for farmers that stop farming. In 2017.

- In 2018 – the introduction of production-rights for dairy-sector. A ceiling in the national manure production.

- 2019 – A Subsidy-scheme for farmers that stop farming in the pig-sector, especially aimed at densely populated areas.

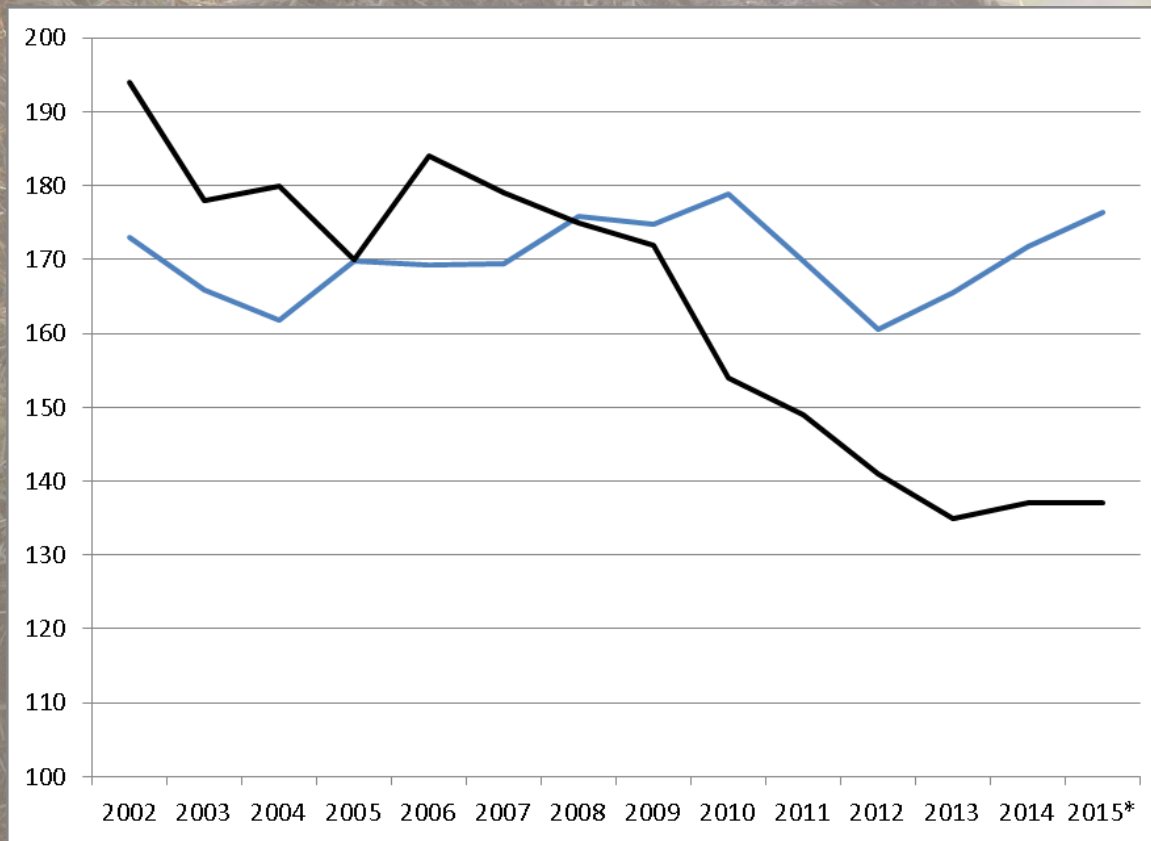


3c. Dutch manure policy – manure surplus





Manure production vs use in Netherlands



Structural
Surplus





Manure processing

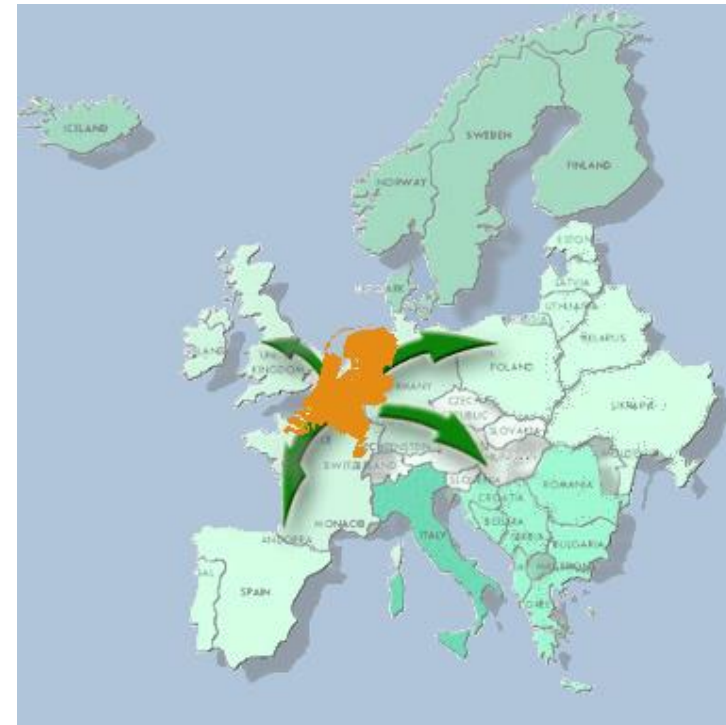
Goal: Place part of the Dutch animal manure outside the Dutch agriculture.

Examples:

- Separating
- Drying
- Pasteurization
- Combustion

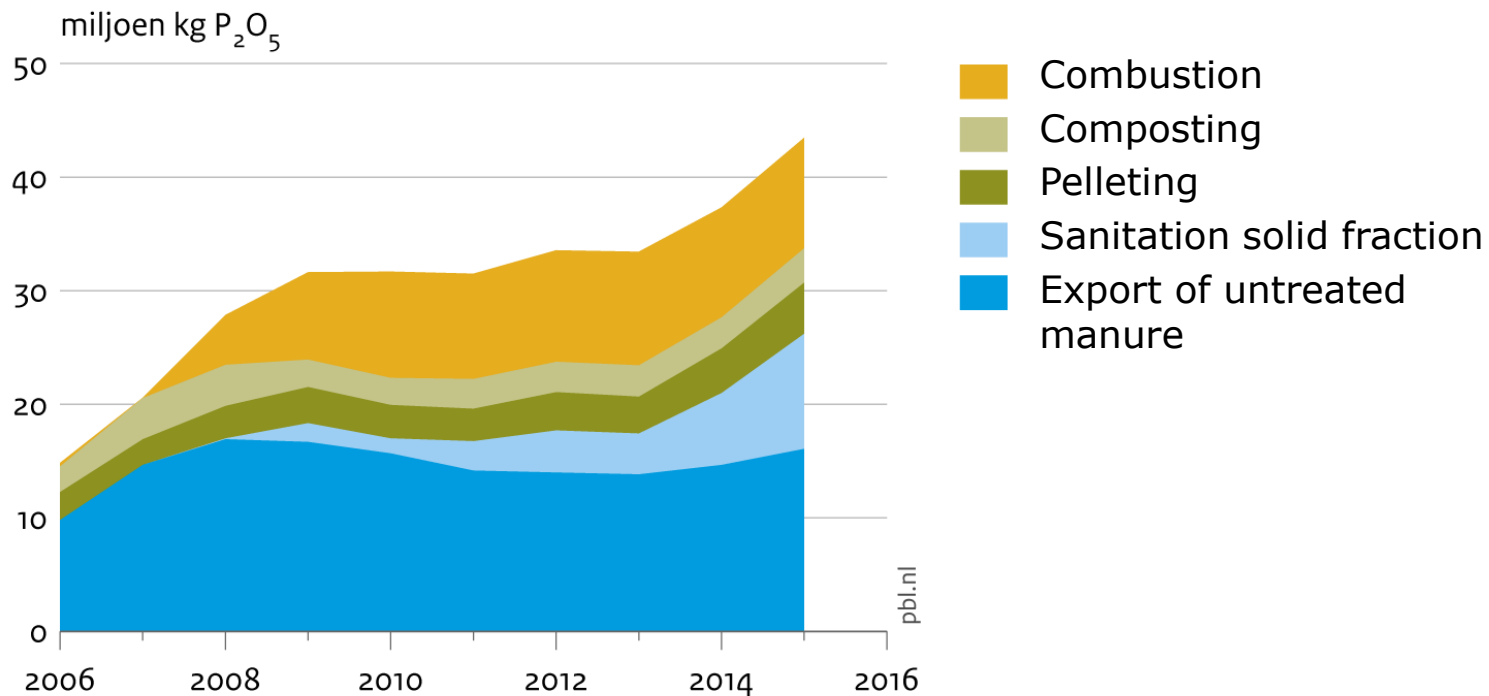


Export





Processing of manure



Bron: CBS; bewerking PBL



Incineration



Pelleting



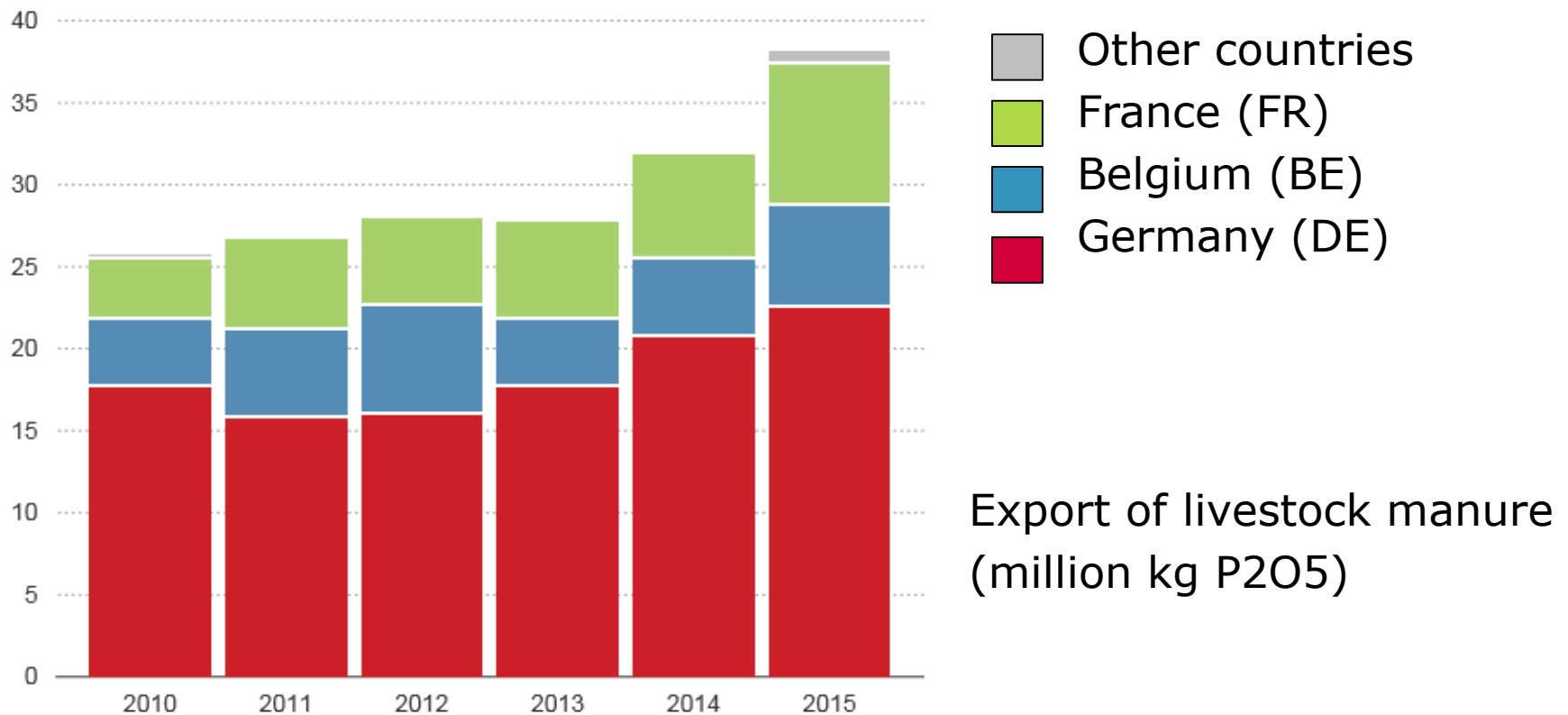
Composting



Digestion



Export of livestock manure



Gemaakt met Localfocus

Bron: RVO.nl



Fertilizer Replacement

Goal: Upgrading animal manure to an artificial fertilizer

- Market of animal manure decreases
- More use of renewable resources
- Fertilizers with high efficiency
- Contaminants

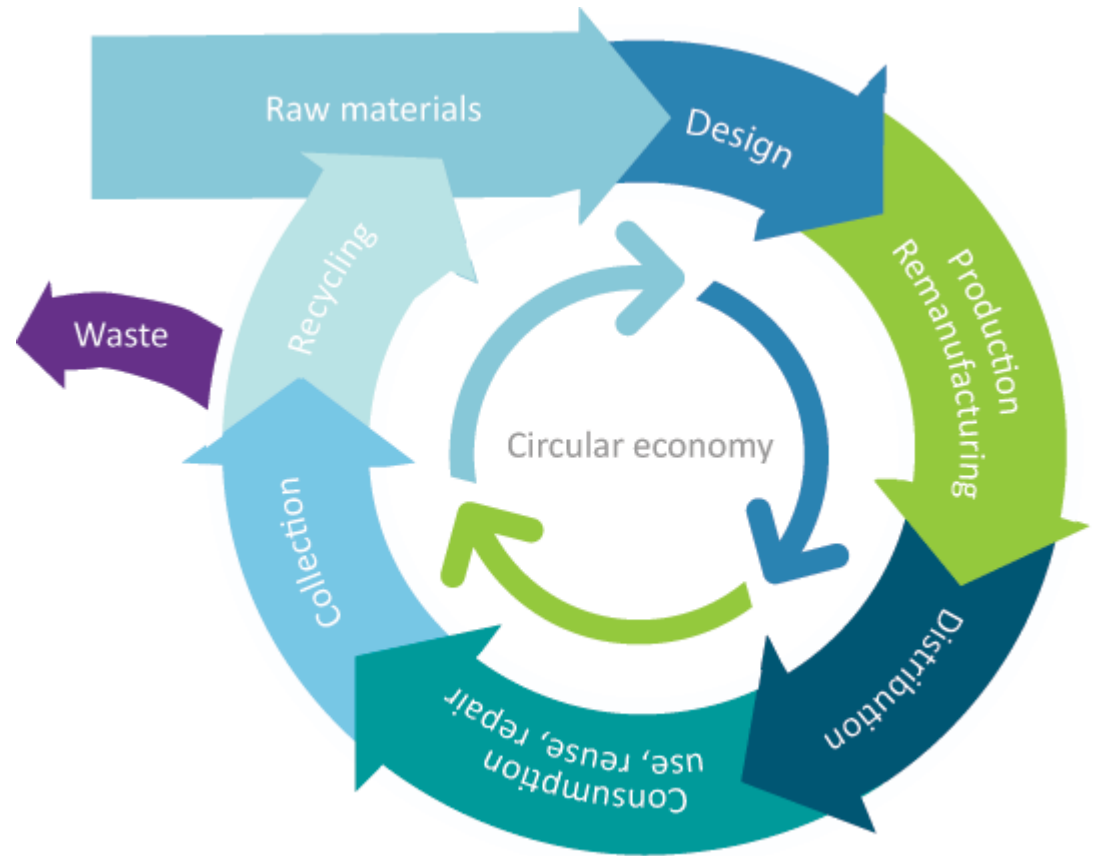
Examples:

- Mineral concentrates (fluid fertilizer)
- Struvite



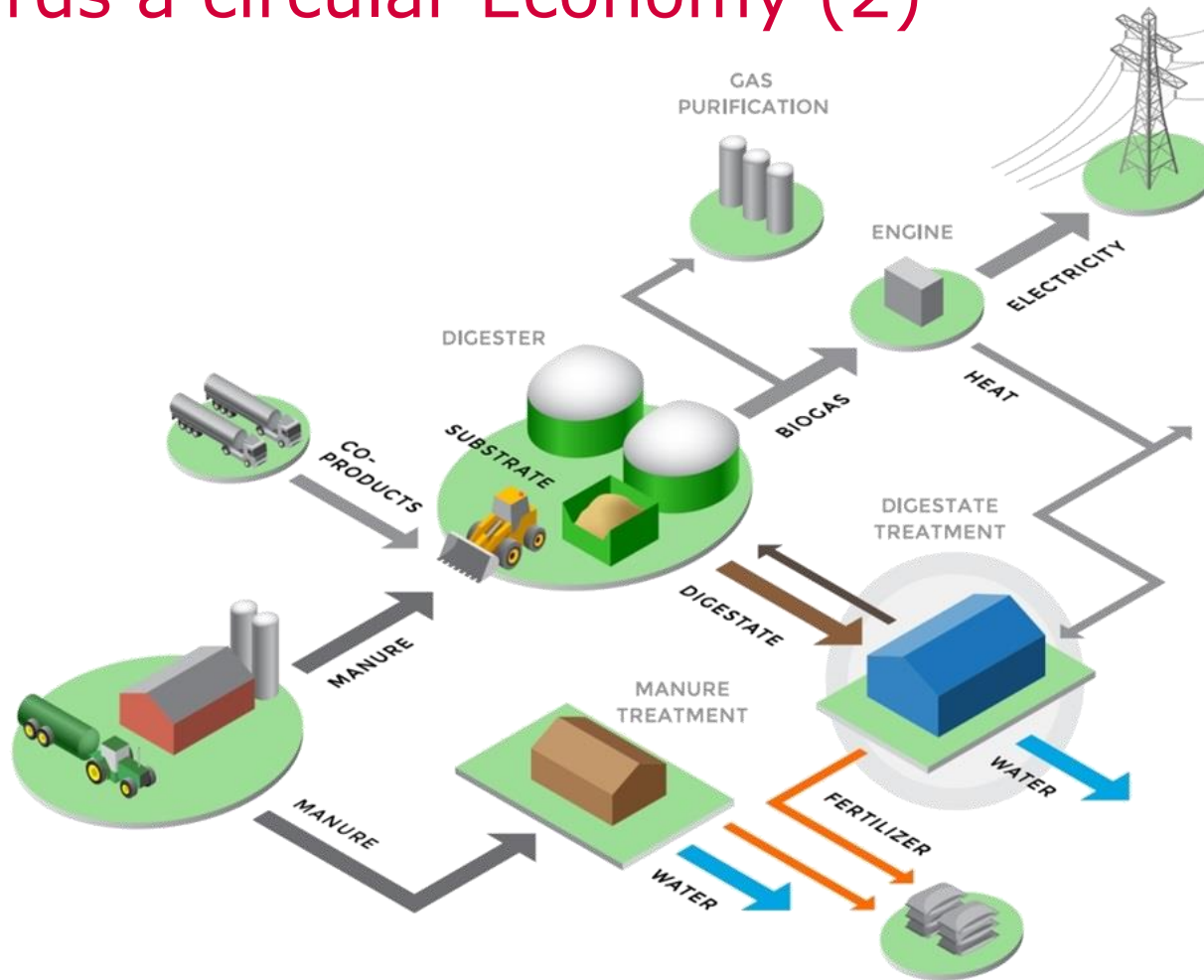


Towards a circular economy





Towards a circular Economy (2)





To conclude...

- Dutch manure policy focusses on manure use and production.
- Strict rules for manure use are needed to create a market for products from manure.
- Processing, Feed and Fertilizer replacement are all needed to develop a sustainable animal husbandry.
- Innovation is going fast, and regulations need to adapt. Both national and on European level.



Dziękuję za uwagę

