



Sustainable manure use to reduce eutrophication of the Baltic Sea

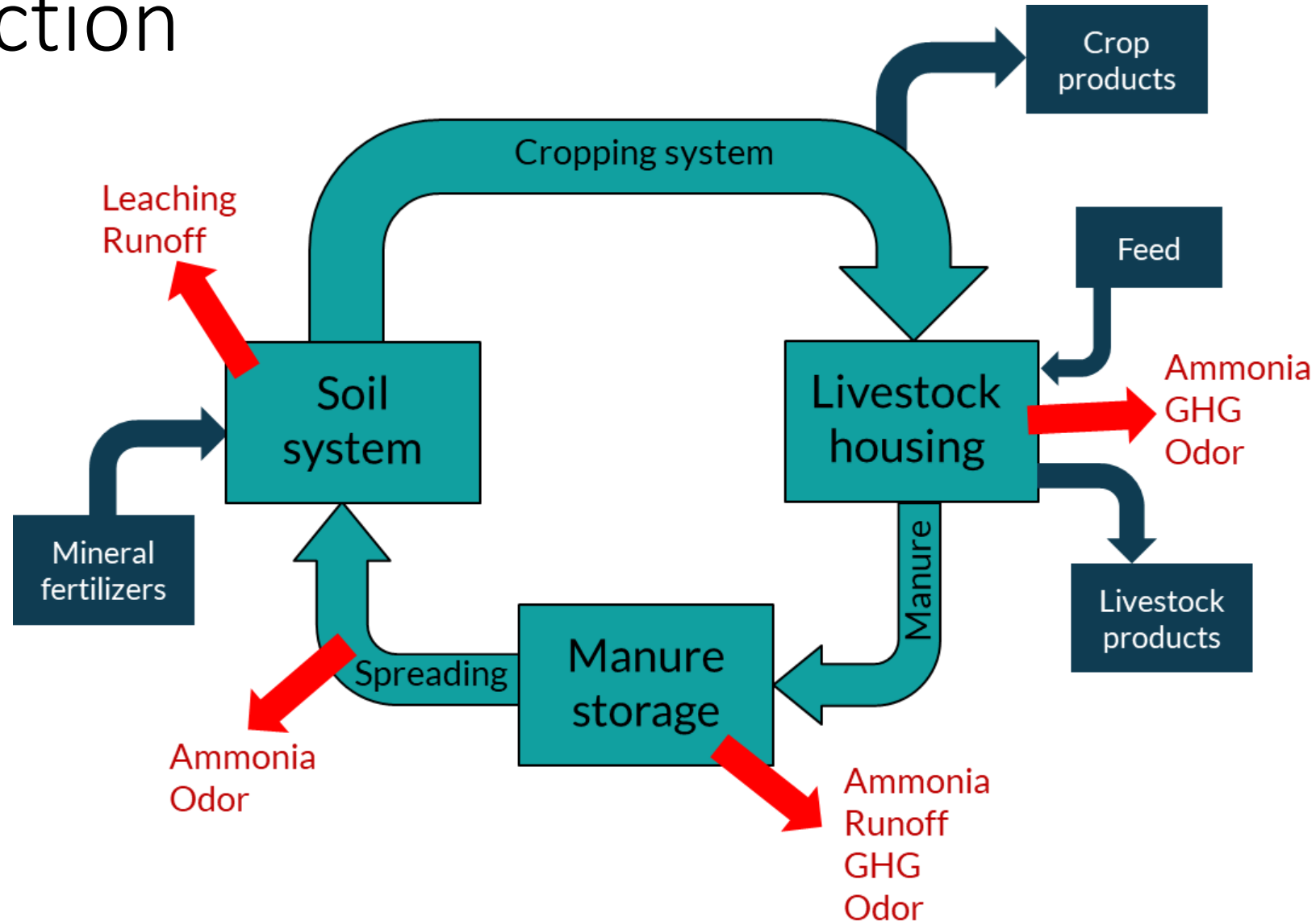
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Sustainable manure and nutrient management for
reduction of nutrient loss in the BSR

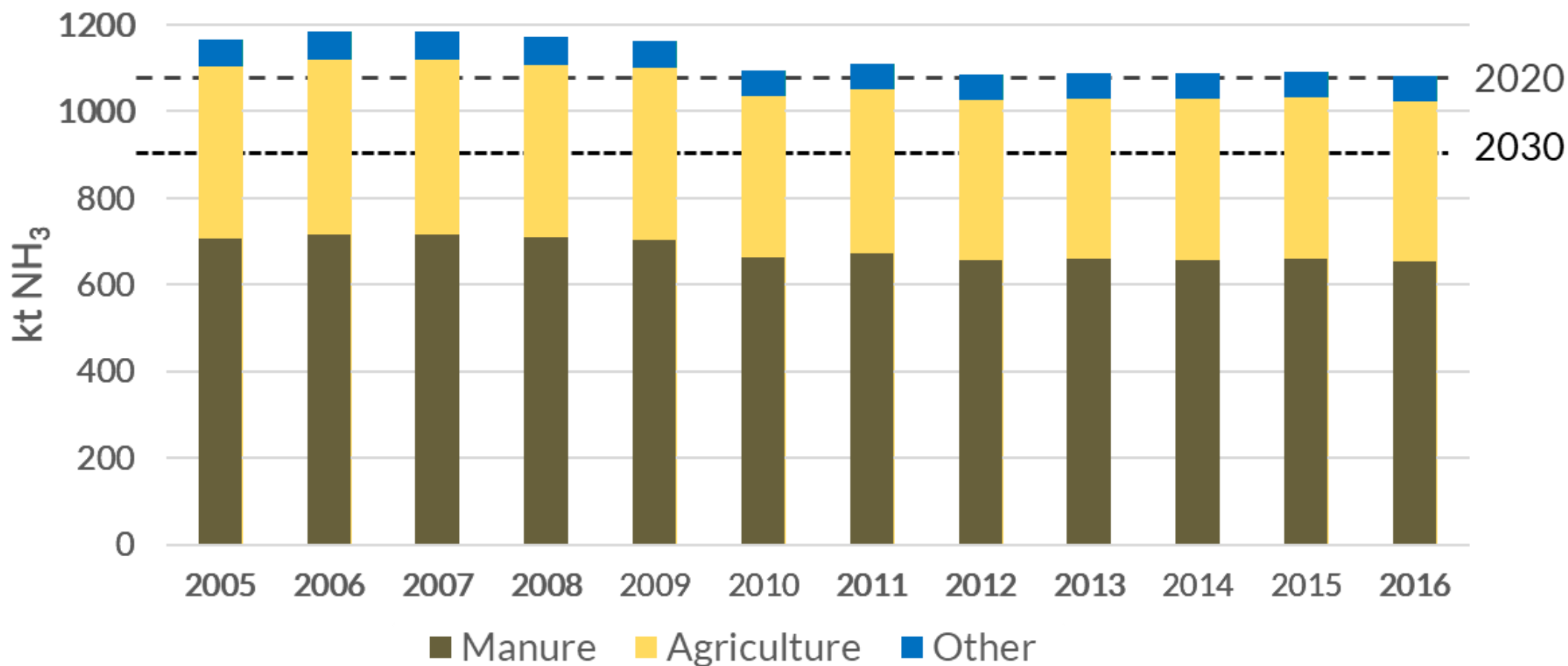


Nutrient recycling and loss in animal production

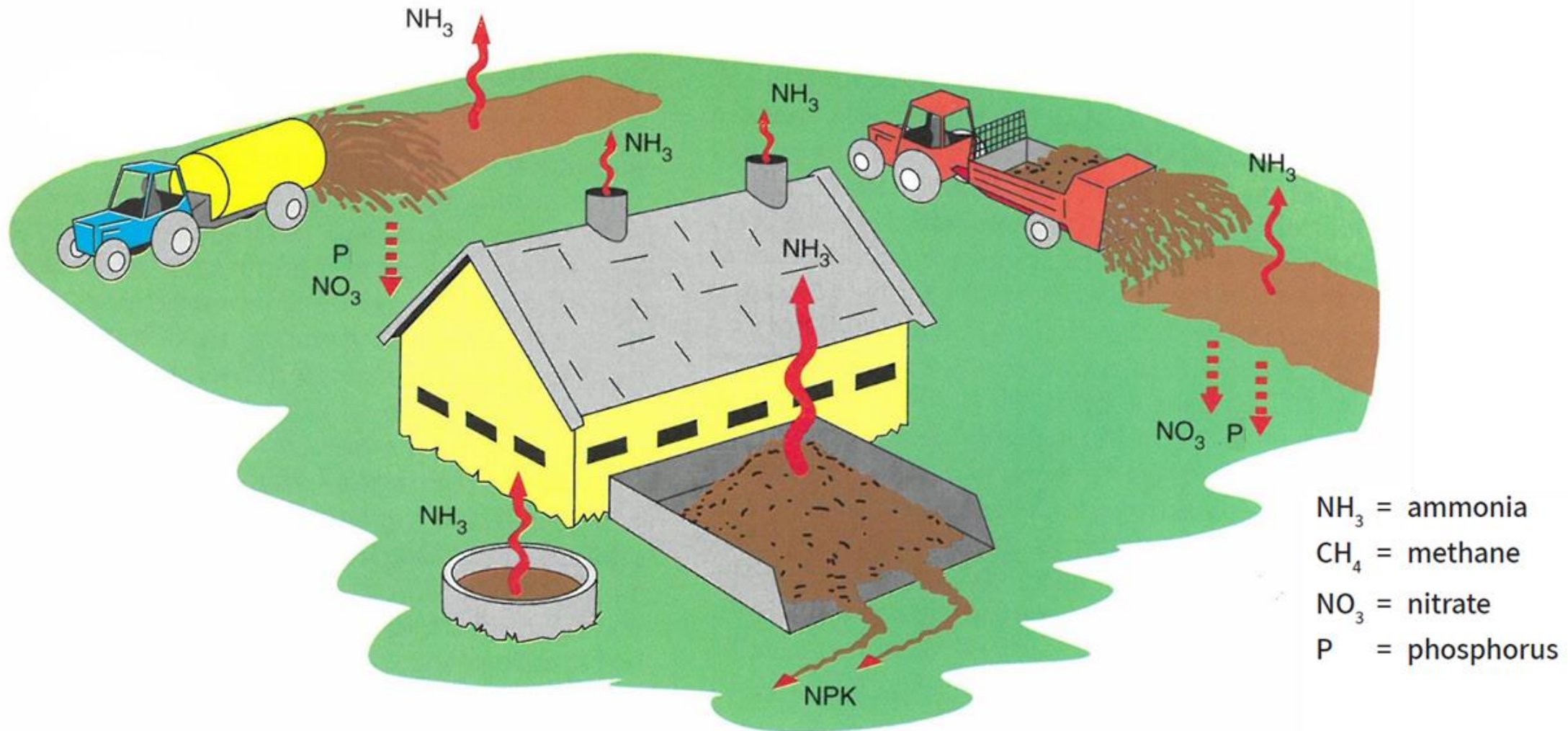


Ammonia emissions from EU Baltic Sea countries

NEC Directive inventories



Nutrient loss from manure handling and use



Reduce eutrophication effects of manure

- Reduce ammonia emission
- Reduce runoff and leaching



Reducing ammonia emissions

Percentage of slurry spread by various technics in the Baltic Sea Region. Source: Baltic Slurry Acidification report 2.1.

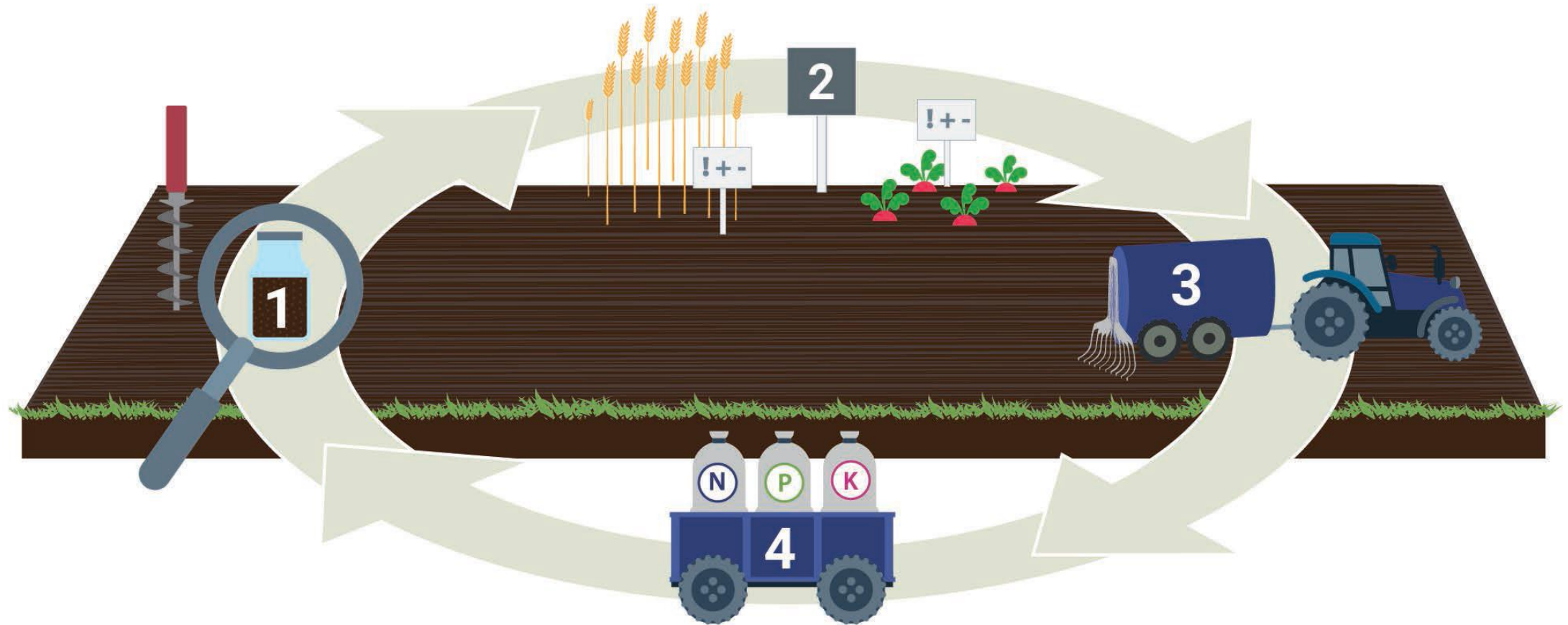
| Country | Broadcast spreading | Band spreading | Injection |
|------------------------|---------------------|-----------------|-----------|
| Denmark ^a | 0 | 85 ^d | 15 |
| Estonia | 5 | 35 | 60 |
| Finland ^a | 35 | 34 | 31 |
| Germany | 70 | 22 | 8 |
| Latvia | 60 | 30 | 10 |
| Lithuania ^b | | | |
| Poland ^a | | | |
| Sweden ^c | 28 ^c | 68 ^c | 4 |

Require use of BATs for animal housing, manure storage and spreading for all livestock producers



Mandatory fertilizer planning

1) soil analysis 2) plant needs 3) manure content 4) extra fertilizer only if necessary



Required farm-level nutrient balances

Nutrients to the farm:

- Fertilizers
- Feed
- New animals
- Seeds
- N fixation
- N downfall

Nutrients off the farm:

- Animal products
- Crops
- Sold animals
- Manure (potentially)



Know what is in your manure

Develop national standards values for
manure quantity and nutrient content



Spread manure when crops need the nutrients

- Increase manure storage capacity requirements to ensure ALL manure can be spread in spring or summer in growing crops



Spread manure when crops need the nutrients

- Increase manure storage capacity requirements to ensure ALL manure can be spread in spring or summer in growing crops
- Autumn spreading only for establishment of winter crops, otherwise forbidden



Reducing nutrient loss from manure

- Reduce eutrophication
- Increase nutrient-use efficiency on farm
- Decrease use of mineral fertilizers



Thank you

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