



Energy research Centre of the Netherlands

Feedback from OECD agri-env indicator workshop (Leysin, Switzerland)

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Objectives of the workshop

- *Examine the current set of OECD set of agri-environmental indicators (AEIs) in terms of their strengths and weaknesses, lessons learned, and uses made of AEIs by policy makers.*
- *Review future directions for agri-environmental indicators to meet the demands of policy makers, with emphasis on recommendations for the future direction of OECD AEI work.*
- *Communicate the results and recommendations of the Workshop to the relevant OECD Working Parties during 2010.*

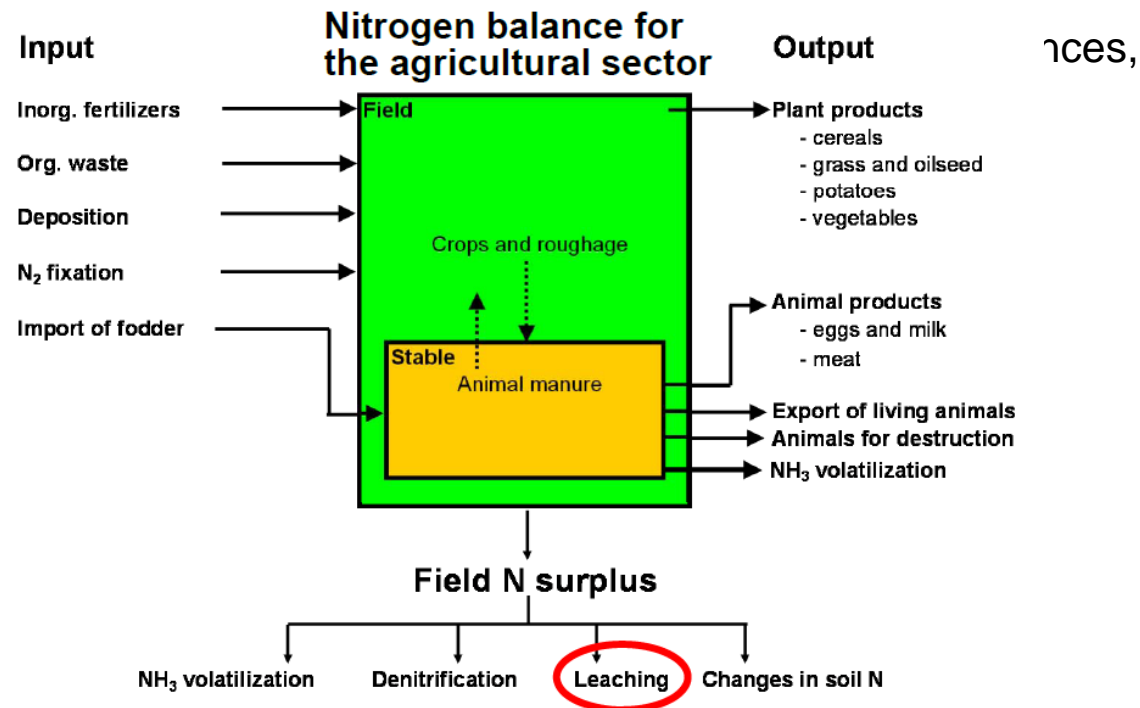
OECD Indicator list

Theme	Indicator title	Indicator definition (trends over time for all indicators)	Theme	Indicator title	Indicator definition (trends over time for all indicators)	
I. Soil	i. Soil erosion	1. Area of agricultural land affected by water erosion, <i>i.e.</i> tolerable, low, moderate, high		viii. Wild species diversity	20. Wild species that use agricultural land as primary habitat.	
		2. Area of agricultural land affected by wind erosion, <i>i.e.</i> tolerable, low, moderate, high			21. Populations of a selected group of breeding bird species that are dependent on agricultural land for nesting or breeding.	
II. Water	ii. Water use	3. Agricultural water use in total national water		ix. Ecosystem diversity	22. Conversion of agricultural land area to (land exits) and from (land entries) other land uses (<i>i.e.</i> forest land; built-up land, wetlands, and other rural land).	
		4. Agriculture's use of groundwater in total national water			23. Area of agricultural semi-natural habitats (<i>i.e.</i> fallow land, farm woodlands) in the total agricultural land area.	
	5. Area of irrigated land in total agricultural land	24. National important bird habitat areas where intensive agricultural practices are identified as either posing a serious threat or a high impact on the area's ecological function.				
	iii. Water quality	6. Nitrate and phosphate contamination derived from agricultural and coastal waters.	V. Farm management	x. Nutrient management	25. Number (area) of farms (agricultural land area) under nutrient management plans.	
7. Monitoring sites in agricultural areas that exceed limits for nitrates and phosphorus in surface water (nitrates only).		26. Farms using soil nutrient testing (agricultural land regularly sampled and analysed for nutrient content).				
8. Monitoring sites in agricultural areas that exceed limits for pesticides in surface water and groundwater		27. Arable and permanent crop area under integrated pest management.				
9. Monitoring sites in agricultural areas where there is a risk of groundwater contamination		28. Arable land area under soil conservation practices.				
III. Air	iv. Ammonia emissions, acidification and eutrophication	10. Share of agricultural ammonia emissions in total ammonia emissions.		xii. Soil management	29. Agricultural land area under vegetative cover all year.	
		11. Agricultural methyl bromide use expressed as a percentage of total use			xiii. Water management	30. Irrigated land area using different irrigation technology systems.
		12. Gross total agricultural greenhouse gas emissions (including methane and nitrous oxide), and their share in total greenhouse gas emissions				xiv. Biodiversity management
	v. Methyl bromide use and ozone depletion	13. Plant varieties registered and certified for sale in the EU (including cereals, oilcrops, pulses and beans and forage).		xv. Organic management	32. Agricultural land area under certified organic farm management (or in the process of conversion to an organic system).	
		vi. Greenhouse gas emissions and climate change	14. Five dominant crop varieties in total market (including wheat, barley, maize, oats, rapeseed, field beans and forage)			VI. Agricultural inputs
	15. Area of land under transgenic crops in total agricultural land			xvii. Pesticides	33. Gross balance between the quantities of nitrogen (N) inputs (<i>e.g.</i> fertilisers, manure) into, and outputs (<i>e.g.</i> crops, pasture) from farming.	
IV. Biodiversity	vii. Genetic diversity	16. Livestock breeds registered and certified for sale in the EU (including cattle, pigs, poultry, sheep and goats)			xviii. Energy	34. Gross balance between the quantities of phosphorus (P) inputs (<i>e.g.</i> fertilisers, manure) into, and outputs (<i>e.g.</i> crops, pasture) from farming.
		17. Three dominant livestock breeds in total livestock (including cattle, pigs, poultry, sheep and goats)		35. Pesticide use (or sales) in terms of tonnes of active ingredients.		
		18. Livestock (<i>i.e.</i> cattle, pigs, poultry and sheep) under conservation programmes and under conservation programmes		36. Risk of damage to terrestrial and aquatic environments, and human health from pesticide toxicity and exposure.		
		19. Status of plant and livestock genetic resources under national conservation programmes.		37. Direct on-farm energy consumption in national total energy consumption.		

Relevant presentations about 'Balances'

- **Nutrient surplus as a tool for evaluating environmental Action Plans in Denmark**

- Finn P. V
Dept. Agri



Relevant presentations about ‘Balances’

- **Nitrogen Use Efficiency as an Agro-Environmental Indicator**

- Frank Brentrup, VERA International, Research Centre Hanninghof &

- **N balance**

- established OECD indicator
 - **difference** between N inputs (for permanent and fodder crops)
 - expressed in **kg N** per country or
 - provides information about the **at** in agricultural products and there
 - gives no information on the use e

Country	Portugal	Sweden	France
N balance (kg N/ha) *	47	48	54
NUE (%) **	40	64	63

* Source: OECD (2008)

** Source: own calculation based on data from FAO and IFA statistics

- **N use efficiency (NUE)**

- can be calculated as the **ratio** be with the crop and the amount of f
 - expressed in %
 - provides information about the **re** agricultural production system of a country or region
 - NUE considers **productivity** more than the N balance

-> A low N balance does not always relate to a high N use efficiency.

-> N balance and NUE do not necessarily lead to the same conclusions.

Relevant presentations about 'Balances'

- ***The '4R Nutrient Stewardship Framework' links indicators of sustainability performance to policies and practices***
 - Tom Bruulsema, Paul Fixen, and Angela Olegario, International Plant Nutrition Institute, Norcross, GA, USA; International Fertilizer Industry Association, Paris, France
- ***Soil Nutrient Balances – reviewing and developing to meet customer needs***
 - Dave Fernall, Food and Farming Group, Defra, York, United Kingdom
- ***Gross Nitrogen Balance and Nitrogen Use Efficiency as tools for policy analysis and evaluation***
 - Klaas van der Hoek, RIVM, The Netherlands

Results

- Available via:
www.oecd.org/agriculture/env/indicators/workshop
- Presentations
- Abstracts
- Session reports
- Recommendations

Linking TFRN / OECD

- OECD wants to improve their N Balance coefficients / methodologies
 - Calls for input from TFRN experts
 - Possibility of bringing them together workshop later this year
- TFRN needs to get into NUE / IONB (for)
 - Call for data?
 - Guidance needed
 - First step: OECD work on Balances
- Clear possibilities to cooperate, so both

