

HARMONISATION OF RISK INDICATORS

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CEUR Forum
Vienna, 29-30.10.2018








































Harmonised environmental indicators for pesticide risk

- The OECD Pesticide Programme started to work on pesticide risk indicators in 1997. A number of activities were carried out until 2008.
- In 2013, the OECD restarted its activities in this area by establishing an ad hoc Expert Group on Pesticide Risk Indicators (EGPRI).
- The EGPRI first developed an online database of available and active pesticide risk indicators and their evaluation reports (PRIER) and this work was followed by a guidance document.
- This document provided guidance on both developing new or selecting existing indicators of risk to human health and the environment. These pesticide risk indicators were tools, based on modelling or actual data from monitoring studies or surveys.



Harmonised environmental indicators for pesticide risk

- The OECD Pesticides Programme followed closely the development and outcomes of the EU-funded HAIR project (HARmonised Environmental Indicators for Pesticide Risk).
- In parallel to and related to the work on pesticide risk indicators, a number of activities were started on collecting and using data on pesticide usage and sales. The indicator project prompted the OECD Pesticide Programme to contribute to, and recommend use of, a set of guidelines published by Eurostat.

1. Agri-environmental commitments	2017	-	-	-	DG AGRI
2. Agricultural areas under Natura 2000 (see CAP Context indicator 34: NATURA 2000 areas)	2016	-	2016	-	EEA
3. Farmers' training level and use of environmental farm advisory services	2013		2013		DG AGRI Eurostat
4. Area under organic farming (see Organic farming statistics)	2016		2016		Eurostat
5. Mineral fertiliser consumption	2015		2016		Eurostat
6. Consumption of pesticides	2016		2016		Eurostat
7. Irrigation	2013		2013		Eurostat
8. Energy use	2016		2016		Eurostat
9. Land use change	2000-2006	-	-	-	EEA
10.1 Cropping patterns	2013		2013		Eurostat
10.2 Livestock patterns	2013		2013		Eurostat
11.1 Soil cover	2010	-	2010		Eurostat
11.2 Tillage practices	2010		2010		Eurostat
11.3 Manure storage	2010		2010		Eurostat
12. Intensification/ extensification	2013	FADN	2013	FADN	DG AGRI
13. Specialisation	2013		2013		Eurostat
14. Risk of land abandonment	2006-2008	-	-	-	JRC
15. Gross nitrogen balance	2015		2015		Eurostat
16. Risk of pollution by phosphorus	2015		2015		Eurostat
17. Pesticide risk	no data	-	-	-	DG SANTE
18. Ammonia emissions	2015		2016		EEA
19. Greenhouse gases (see also Climate change - driving forces)	2015		2016		EEA
20. Water abstraction	2009		2015		EEA
21. Soil erosion	2010		2012		JRC
22. Genetic diversity	no data	-	-	-	EEA
23. High Nature Value farmland	no data	-	-	-	DG AGRI
24. Renewable energy production	2010	-	2014	-	DG AGRI Eurostat
25. Population trends of farmland birds (see also Biodiversity statistics)	2014		2014		EEA
26. Soil quality	2006	-	-	-	JRC
27.1 Water quality - Nitrate pollution	2009	-	-	-	EEA
27.2 Water quality - Pesticide pollution	2011	-	-	-	EEA
28. Landscape - state and diversity	1996-2005	-	-	-	JRC

EUROSTAT – set of 28 indicators

Agri-environmental indicators track the integration of environmental concerns into the Common Agricultural Policy at EU, national and regional levels.

Directive 2009/128/EC

L 309/86

EN

Official Journal of the European Union

24.11.2009

ANNEX IV

Harmonised risk indicators

- It is necessary to measure the progress achieved in the reduction of risks and adverse impacts from pesticide use for human health and the environment.
 - Appropriate means are harmonised risk indicators that will be established at Community level.
 - CHAPTER V: INDICATORS, REPORTING AND INFORMATION EXCHANGE Article 15 Indicators 1: Harmonised risk indicators as referred to in Annex IV shall be established. However, Member States may continue to use existing national indicators or adopt other appropriate indicators in addition to the harmonised ones.
- Content of Annex IV to Directive 2009/128/EC is missing



POLISH RISK INDICATORS

- A decision to give up establishing the indicators on the findings of the HAIR program (following a detailed analysis of practical application of HAIR in Poland)
- A decision to develop a set of national indicators to track progress and changes in pesticide safety, based on the results of national controls and monitoring systems
- The indicators were prepared by the Plant Protection Institute - National Research Institute under the Multi-year Programme commissioned by the Polish Ministry of Agriculture and Rural Development.
- The indicators are based on the following control and monitoring activities performed nationwide to ensure pesticide safety (control of use of pesticides conducted by the Plant Health and Seed Inspection, control of pesticide residues in crops at farm level, ongoing pesticide sales surveys conducted by the Central Statistical Office, Pesticides Register of Authorised Plant Protection Products)



SET OF INDICATORS CURRENTLY IN USE

- Consumer exposure indicator based on excess MRLs in agricultural products
- Pesticide risk indicators related to improper use of pesticides
- Sales indicator for potential risks for health and the environment
- Sales indicator for substances of priority for water policy
- Sales indicator for active substances, which require to be monitored
- Pesticide load indicator for Surface water

Harmonised Risk Indicator

- A complete set of indicators will take many years to develop and a phased approach is necessary.
- The immediate goal is to develop a relatively simple indicator (s) which can be implemented using available data and without adding to the administrative burden on MS. This can be supplemented with a range of other indicators over time.
- The proposed approach was to start with the adoption of an indicator based on the categorisation of active substances under Regulation No 1107/2009.

Phase	Basis of indicator	Example indicator
1	Hazard categorisation of active substances under Regulation No 1107/2009)	Volume of active substances sold Weighting of these substances based on their categorisation
2	Behaviour/Compliance	% sprayers tested % operators trained % containers rinsed and disposed of safely % compliance with IPM Number of Emergency Authorisations Detection of unauthorised substances
3	Impact	% food samples compliant with Maximum Residue Levels Number of case of acute poisoning % water samples compliant with the Water Framework Directive



Hazard-based Harmonised Risk Indicator based on the quantities of a.s. placed on the market in PPP

- This indicator is based on statistics on the quantities of active substances placed on the market in PPP under Regulation (EC) No 1107/2009 data provided by Eurostat.
- Those substances are categorised into 4 Groups, which are divided into 7 Categories.
- The baseline for the Hazard-based Harmonised Risk Indicator will be set at 100, and is equal to the average result of calculation for the period 2011-2013.

Hazard-based Harmonised Risk Indicator

Groups						
1	2		3		4	
Low-risk active substances which are approved under Article 22 of Regulation (EC) No 1107/2009	Active substances approved under Articles 7-13 and 14-20 of Regulation (EC) No 1107/2009, which are neither low-risk, nor candidates for substitution.		Active substances approved under Article 24 of Regulation (EC) No 1107/2009, which are candidates for substitution		Active substances which are not approved under Regulation (EC) No 1107/2009	
Categories						
A	B	C	D	E	F	G
Micro-organisms	Chemical active substances	Micro-organisms	Chemical active substances	Which are not classified as Carcinogenic Category 1A or 1B, Toxic for Reproduction Category 1A or 1B, or are not considered to be endocrine disruptors	Which are R1, C1, or are considered to be endocrine disruptors, and where exposure of humans is negligible	
Hazard Weightings applicable to quantities of active substances placed on the market in products authorised under Article 28 of Regulation (EC) No 1107/2009						
1	8		16		64	

	Total pesticides sales	Fungicides and bactericides	Herbicides, Insecticides and acaricides	Insecticides and acaricides	Molluscicides	Plant growth regulators	Other plant protection products	Share in the total EU-28 pesticide sales (%)
	(Tonnes)							(%)
EU-28 (*)	395 944.4	173 250.8	131 263.5	20 706.3	1 684.4	12 843.7	56 195.7	100.0
Belgium	7 001.1	3 095.0	2 519.7	555.8	47.7	261.2	521.6	1.8
Bulgaria	1 002.0	186.1	652.4	163.4	.	.	.	0.3
Czech Republic	5 663.4	1 788.3	2 755.3	337.7	15.5	350.3	416.2	1.4
Denmark	1 974.6	530.2	1 242.5	38.3	15.4	114.2	33.9	0.5
Germany	46 078.5	12 739.9	17 876.7	977.2	255.5	2 171.3	12 058.0	11.6
Estonia	596.0	88.2	425.6	25.3	.	56.6	.	0.2
Ireland	2 736.0	635.5	2 039.2	51.4	9.9	.	0.0	0.7
Greece	3 907.1	1 866.4	1 194.6	588.8	1.2	148.5	107.7	1.0
Spain	78 818.3	38 379.7	14 908.0	7 515.1	66.2	156.4	17 793.0	19.9
France	75 287.5	34 430.6	30 965.5	2 610.9	870.2	2 802.9	3 607.5	19.0
Croatia	2 119.1	1 004.8	889.1	143.1	5.4	72.2	4.5	0.5
Italy	64 071.1	37 907.1	7 864.4	2 251.9	75.0	367.4	15 605.2	16.2
Cyprus	1 046.7	698.1	153.4	180.6	1.0	1.2	12.5	0.3
Latvia	1 417.4	224.7	847.5	64.0	0.0	274.5	6.6	0.4
Lithuania	2 545.6	604.8	1 394.2	43.6	0.0	502.9	.	0.6
Luxembourg (*)	176.1	91.0	82.8	.	2.3	.	.	0.0
Hungary	8 959.5	3 634.1	4 011.1	916.5	3.5	203.3	190.9	2.3
Malta	108.4	97.4	7.6	2.9	0.5	0.0	.	0.0
Netherlands	10 665.6	4 869.1	3 266.4	252.0	45.1	452.0	1 780.8	2.7
Austria	3 373.2	1 641.1	1 375.8	240.2	16.2	53.5	46.4	0.9
Poland	23 650.6	7 442.5	12 073.4	1 479.2	35.3	2 128.0	392.3	5.9
Portugal	12 889.2	8 244.4	2 410.8	732.9	35.7	1.4	1 464.0	3.3
Romania	10 021.2	4 131.9	5 025.4	569.0	1.2	270.6	23.1	2.5
Slovenia	1 009.0	723.7	238.5	33.5	2.2	0.6	10.5	0.3
Slovakia	2 198.0	567.2	1 215.1	106.5	.	179.8	129.4	0.6
Finland	3 579.9	198.5	1 305.4	12.8	.	88.6	1 974.5	0.9
Sweden	2 486.7	302.3	2 103.8	34.2	.	29.3	17.1	0.6
United Kingdom	22 662.7	7 128.1	12 418.9	779.4	179.4	2 156.8	.	5.7
Norway	859.8	121.8	692.0	4.8	1.3	39.1	0.7	.
Switzerland	2 240.9	1 002.2	745.4	83.1	55.9	30.7	323.6	.

(*) Confidential data have been removed from the sums of pesticides sales. They represent 0.003% of Total pesticides sales in the EU.
 (**) Fungicides and bactericides: 2012 data, other data: 2013.



Hazard-based Harmonised Risk Indicator

Advantages:

good data availability, not complicated mathematical formula, historical data is available, easy for calculation

but:

Indicator does not account the use of a.s. per unit of area. In the case of states of similar size, for states with a low pesticide usage within the reference period, the indicator would increase as much as for the countries with high usage within a given reference year, despite the fact that the actual pesticide usage data for the high-usage states would be several times higher.

It is difficult to compare countries where PPP sales volume is still low, but increasing with countries with high sales volume. In many cases IPM causes increasing amount of PPP used rather than decreasing.

Solution?

risk indicator based on PPP usage per hectar (but we need reliable and comparable data)

To consider:

Is it ok to place into formula a.s. instead of PPP with its formulation? The risk is not the same in different formulation.

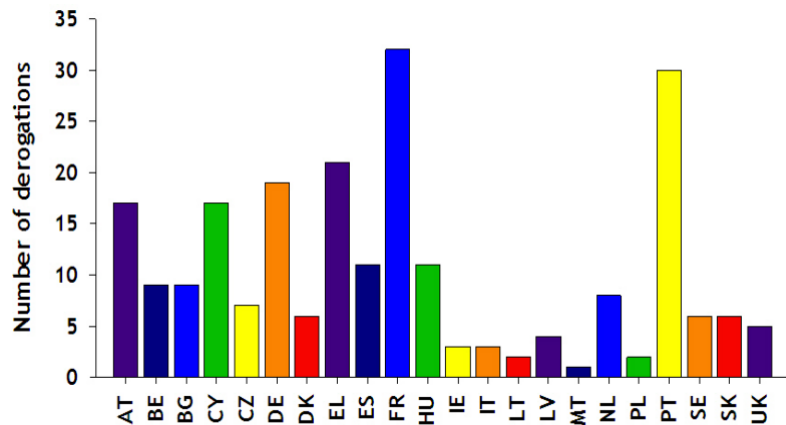


Harmonised Risk Indicator based on the number of derogations - authorisations granted under Article 53 of Regulation No 1107/2009

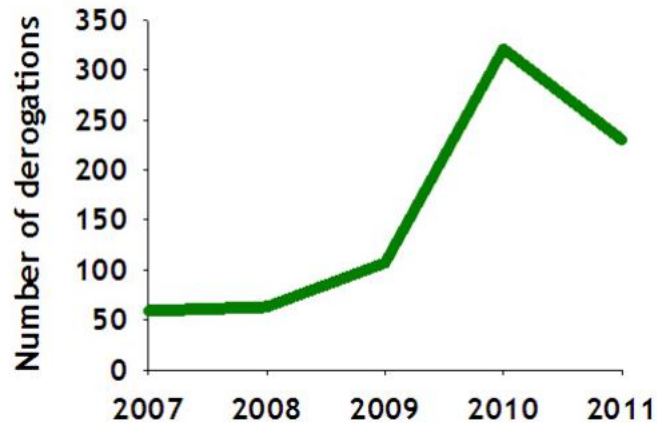
- This indicator is based on the number of authorisations granted under Article 53.
- Those substances are categorised into 4 Groups, which are divided into 7 Categories.
- The baseline will be set at 100, and is equal to the average result of the calculation for the period 2011-2013.

Harmonised Risk Indicator based on the number of derogations

The 120-day derogation in 2011



Number of derogations granted by MS in 2011



Number of derogations granted by year (2007-2011)




Harmonised Risk Indicator based on the number of derogations

Advantages:

good data availability, not complicated mathematical formula, historical data is available, easy for calculation

but:

How to compare MS with a few derogations in reference period with several dozens?



In parallel with the HRI, MS should continue to use existing, or to develop new, national indicators linked to their National Action Plans in order to measure reductions in risks and impacts in a more targeted manner.

Proposed HRI are simple and easy to calculate and can be used to observe the trend lines in given countries - not to compare between countries and not to apply sanctions.

Our common goal: IPM INDICATOR



THANK YOU VERY MUCH

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