NATIONAL PESTICIDE RISK INDICATORS

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EXTERNAL CONDITIONS AND ASSUMPTIONS

DIRECTIVE 2009/128/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL
of 21 October 2009 establishing a framework for
Community action to achieve the sustainable use of pesticides

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. Member States should use those indicators for risk management at national level and for reporting purposes, while the Commission should calculate indicators to evaluate progress at Community level. Statistical data collected in accordance with the Community legislation concerning statistics on plant protection products should be used. Member States should be entitled to use, in addition to harmonised common indicators, their national indicators.

EXTERNAL CONDITIONS AND ASSUMPTIONS

L 309/86 EN Official Journal of the European Union 24.11.2009

ANNEX IV

Harmonised risk indicators

- Content of Annex IV to Directive 2009/128/EC is missing
- 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 are prepared by the Plant Protection Institute - National Research Institute under the Multi-year Programme commissioned by the Polish Ministry of Agriculture and Rural Development

SOURCES OF DATA FOR THE NATIONAL PESTICIDE RISK INDICATORS

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 and control of detailed issues related to the use of pesticides 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

A. Consumer exposure indicator measuring excess MRLs in agricultural products
B. Pesticide risk indicators related to improper use of pesticides

The A and B indicators are based on the results of control of the use of pesticides

C. Sales indicator for potential risks for health and the environment
D. Sales indicator for substances of priority for water policy
E. Sales indicator for active substances, which require to be monitored

Indicators C, D and E are based on tracking pesticide sales

A. CONSUMER EXPOSURE INDICATOR MEASURING EXCESSIVE MRLs IN AGRICULTURAL PRODUCTS

$$W_{K.pł.rol.} = \Sigma_i[\Sigma_i N_{ji} / \Sigma_i(P_{ji} * JB_i) * (SP)_j / SP$$

The indicator is based on the number of detected irregularities (N_{ji}) defined as the sum of percentages of exceeded MRLs found in crops („j" – crop index) in relation to the number of samples tested by the laboratories (P_{ji}, where „i" – research lab index)

The indicator takes into account the relative crop consumption volume (SP_j / SP) and testing lab quality coefficient for the labs participating in the control of pesticide residues (JB_i).

	2013	2016	Plan for 2017-2022
$W_{K.pł.rol}$	**7,16**	**7,26**	**below 10**

B. PESTICIDE RISK INDICATORS RELATED TO IMPROPER USE OF CROP PROTECTION PRODUCTS

General form of indicators: $W_{S.ŚOR} = \Sigma_i[N_i / \Sigma_i(P_i * JB_i)$

The indicators are based on the number of irregularities (N_i) uncovered by the testing labs („i" – lab index) in relation to the number of tested samples (P_i) taking into account the lab quality coefficient (JB_i)

There is a separate indicator for improper use resulting in exceeding MRLs ($W_{S.ŚOR\ NDP}$) and another one for the use of an active substance not allowable for a particular crop ($W_{S.ŚOR\ Niedop.}$).

	2013	2014	2015
$W_{S.ŚOR\ NDP}$	**0,035**	**0,028**	**0,040**

C. SALES INDICATOR FOR POTENTIAL RISKS FOR HEALTH AND THE ENVIRONMENT

Indicator of pesticide sales structure (WSS) considering the potential risks - separately for health (WSS_{zdr}) and the environment ($WSS_{śr}$):

$WSS = \Sigma_i(P_i * S_i / S)$

To calculate the indicators, we have developed a point system, which reflects different potential risks, indicated by a number of points (P_i) assigned to each pesticide „i" sold on the market

The point system uses categories, sub-categories and types of risks (H Codes) which describe the pesticides in accordance with Directive (EC) No. 1272/2008

Year	WSS_{zdr}	$WSS_{śr}$	WSS
2016	2,669	3,001	5,67

D. SALES INDICATOR FOR SUBSTANCES OF PRIORITY FOR WATER POLICY

The indicator based on the sales volume of active substances placed on the list of priority substances itemized in Annex 1 to Directive 2013/39/EU of the European Parliament and of the Council is calculated according to the following formula:

$$WZS_{PW} = \Sigma_i S_{PWi}$$

Whereas the indicator of the sales structure for the substances is calculated as follows:

$$WSS_{PW} = WZS_{PW} / S * 100$$

In the formulas, the „i" index refers to the priority substances, and the cumulative sales volume of all active substances is marked with the letter „S".

Year	WZS_{PW}	WSS_{PW}
2015	1552,85Mg	6,47%

E. SALES INDICATOR FOR ACTIVE SUBSTANCES, WHICH REQUIRE MONITORING PROGRAMS

Active substances which require special monitoring programs are listed in the Annex to Regulation (EU) No. 540/2011. Just like in the case of „D" indicators, we calculate the sales volume indicator:

$WZS_{monit} = \Sigma_i S_{monit\ i}$ and sales structure indicator: $WSS_{monit} = WZS_{monit} / S * 100$

Where the „i" index stands for individual active substances which require special monitoring programs and „S" stands for the sales volume

These indicators were calculated for the year 2013 and later years, based on the 2015 list of substances

	2013	2014	2015
WZS_{monit} [Mg]	**2030,3**	**2098,2**	**2165,6**
WSS_{monit} [%]	**9,144**	**8,907**	**9,021**

FURTHER WORK RELATED TO INDICATORS

Work is ongoing to develop another pesticide risk indicator related to the improper use of pesticides (which will supplement the B indicators) based on the findings of control conducted at farm level (by State Plant Health and Seed Inspection), which would focus on detailed issues related to the use of pesticides, considered important for pesticide safety. Data collected so far allows to calculate the indicator starting in 2014

FURTHER WORK RELATED TO INDICATORS

$$W_{S.ŚOR\ Kontrola} = \Sigma_i [W_i * N_i / Lk_i]$$

Where „i" index stands for given control area like:

pesticides use documentation, use of unapproved pesticide, use of a PPP non-compliant with its scope of application, conditions of safe use, storage conditions, valid training certification and technical examination of spray equipment.

W_i - weight - importance for the safety of people and the environment, identified in the control areas,

N_i - the total number of „problems" in a given control area i,

Lk_i - number of controls carried out in a given control area i.

PESTICIDE LOAD INDICATOR FOR SURFACE WATER

$W_{WP} = S / (n * B / A)$ [µg/L]

The indicator was developed as a ratio of cumulative concentrations of active substances found in the process of surface water monitoring (S) to the number of samples tested in a given year (n), adjusted by the ratio of the sales volume for the tested active substances (B) to the cumulative sales volume of all active substances (A).

The indicator is based on the data coming from the still-developing monitoring system of the impact of agricultural activities on pesticide safety for surface waters.

IPM INDICATOR

Under the framework of the Multi-year Program for 2016-2020, we are planning to develop an indicator showing how farmers apply the principles of integrated plant protection.
However, in the first place we need to modify how the principles are controlled. For the time it is a kind of survey which does not give a basis for creating formula and for mathematical calculation of results.

MISSION DG SANTE CARRIED OUT IN POLAND FROM 07 JUNE 2017 TO 14 JUNE 2017 IN ORDER TO EVALUATE THE IMPLEMENTATION OF MEASURES TO ACHIEVE THE SUSTAINABLE USE OF PESTICIDES

The objective of the mission was to investigate the implementation of measures to achieve the sustainable use of pesticides, in particular the implementation of the requirements set out under Directive 2009/128/EC of the European Parliament and of the Council, and to identify common obstacles/difficulties encountered in the implementation of this Directive, as well as good practices.

THANKS!

Any questions?

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