

TOPPS Water Protection Project in SLOVAKIA 2015 to 2018

„Making a difference in the field“



Outline

- TOPPS projects overview
- What we do in SK ?
- How we do it ?
- Why we do it ?



Crop Protection Products are most regulated chemicals in Europe

EU - Legislation frame work

Water Framework Directive

- Ground water
- Surface water
- Marine water

Placing of Plant Protection Products to the Market

- Access to Market
- Hazard reduction
- Risk assessment

Directive on Sustainable Use of Pesticides

- Focus on use phase
- Sales & training
- Risk reduction
- Sprayer testing

Intensive monitoring

Classification of water bodies (Status)

Good chemical + biological status by 2015

Thresholds for drinking water 0,1µg/l

„ Pollutor pays principle“

Precautionary principle:

Identification of potentially adverse effects;
evaluation of the scientific data available;
risk assessment

Risk Management

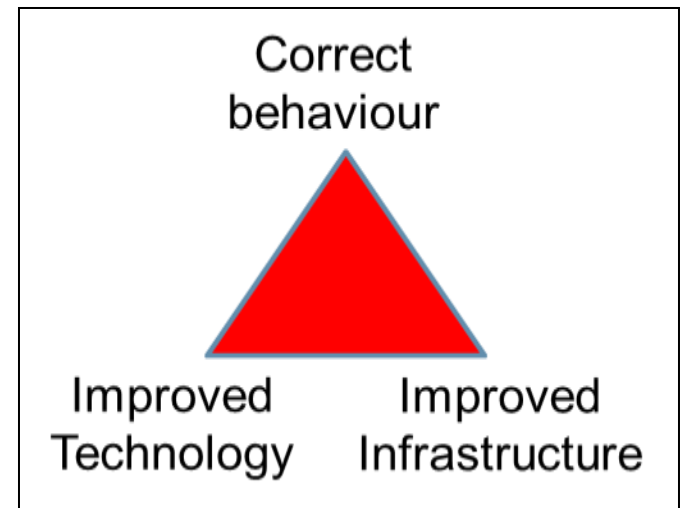
Includes also application equipment through
obligatory sprayer testing, harmonized standards
and training obligations

Water is a key resource to keep clean by reducing entry from contamination sources

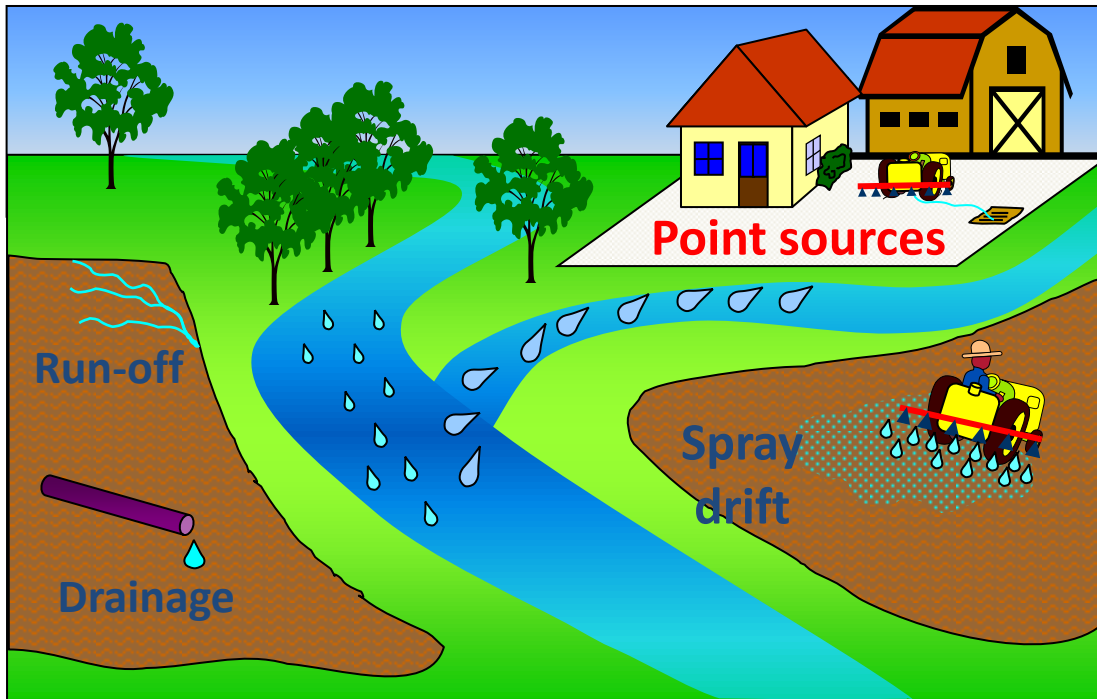
- Fertilizers and pesticides
- Human and animal waste
- Plastics and heavy metals
- Other manmade and natural chemicals

Generally water contamination can be prevented / strongly reduced by implementing a framework of Best Management Practice (BMP)

We follow in TOPPS the strategic triangle



TOPPS highlights the significance of the entry routes of PPP to water.



5 %
Drift
30 %
Run-off

Diffuse sources
from the field

Can be reduced

> 50 %
Point
Sources

Point source
from farmyards

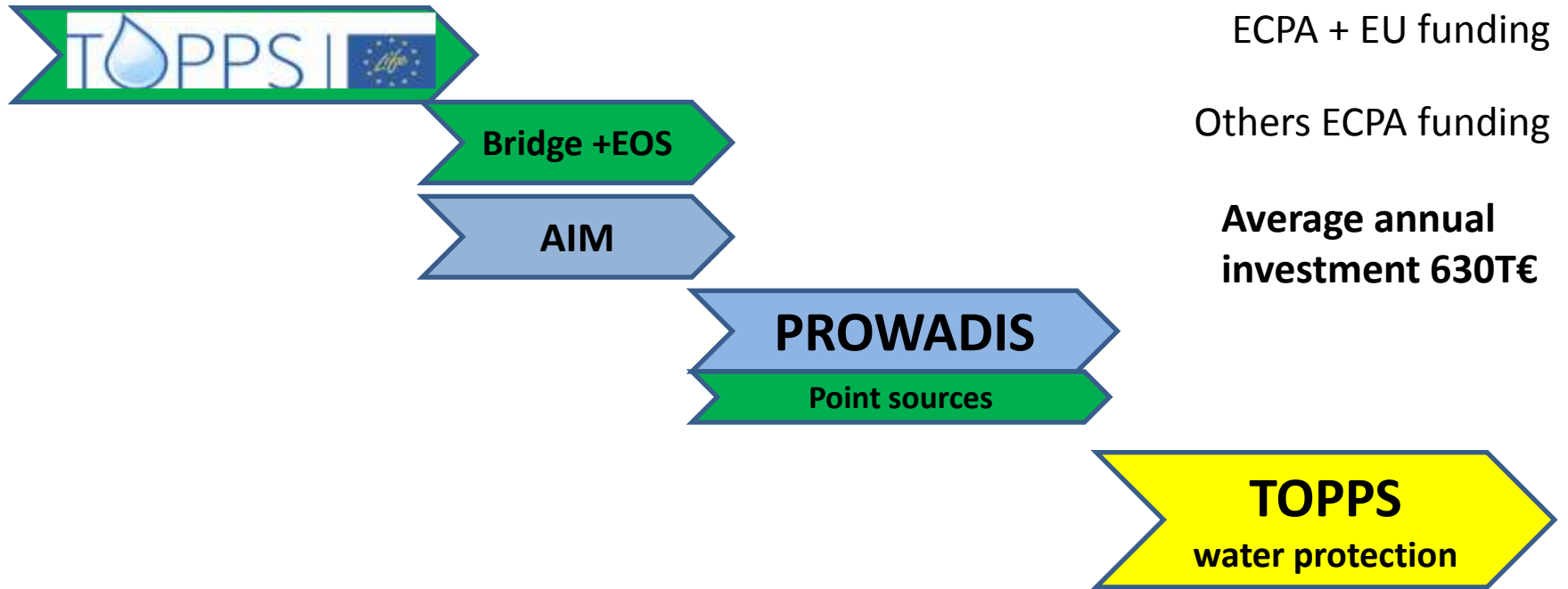
Can be avoided

.... If the problems are known solutions can be found and priorities can be defined!



TOPPS a longterm committment of the Crop Protection Industry in EU to protect water

.... THIS NOVEMBER TOPPS HAS IT'S 10 YEARS ANNIVERSARY



Nov 2005

Oct 2008

Dec 2010

May 2011

End 2014

2017/2018

Train Operators Promote best Practices & Sustainability

TOPPS projects are Europe wide

BMPs /dissemination	Point source			Diffuse	All
	TOPPS life	TOPPS extension	TOPPS EOS	TOPPS prowadis	TOPPS water protection
Austria					
Belgium					
Bulgaria					
Croatia					
Cyprus					
Czech Republic					
Denmark					
Estonia					
Finland					
France					
Germany					
Greece					
Hungary					
Ireland					
Italy					
Latvia					
Lithuania					
Luxembourg					
Malta					
Netherlands					
Poland					
Portugal					
Romania					
Slovakia					
Slovenia					
Spain					
Sweden					
United Kingdom					

TOPPS – point sources

BMPs / Materials developed
Europe wide (23 countries)

TOPPS – EOS

Environmentally optimized sprayer
Expert information tool.

TOPPS-prowadis

7 countries
BMPs + materials developed to
reduce diffuse PPP losses to water

TOPPS water protection

12 countries
Dissemination and implementation
of BMPs

Point sources

Critical factors

- Cleaning of sprayers
- Filling of sprayers
- Management of contaminated residuals

Mitigation priorities

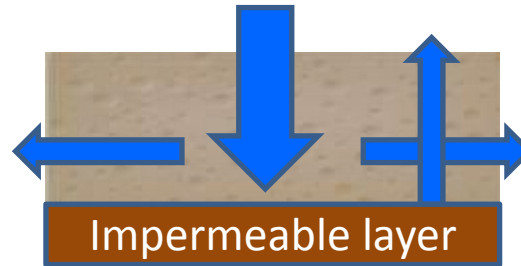
1. Sprayer cleaning and improved technologies
2. Filling systems with less risk for spills
3. Consistent approach and solutions for remnant management



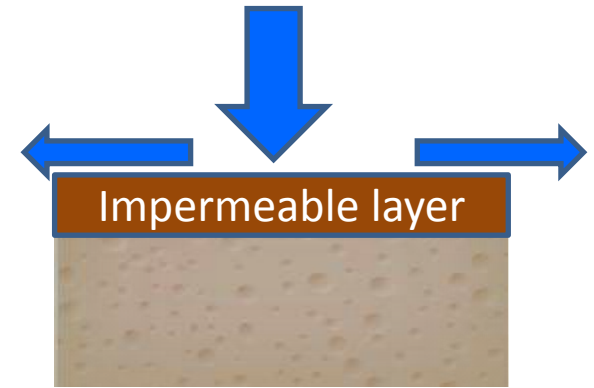
Runoff

Critical factors

- Volume and intensity of rainfall
- Soil conditions
- Proximity to water
- Landscape
- Agronomic practise



Runoff due
soil saturation



Runoff due
infiltration restriction

Mitigation priorities

1. In field measures
2. Out of field measures
3. Retention in catchment



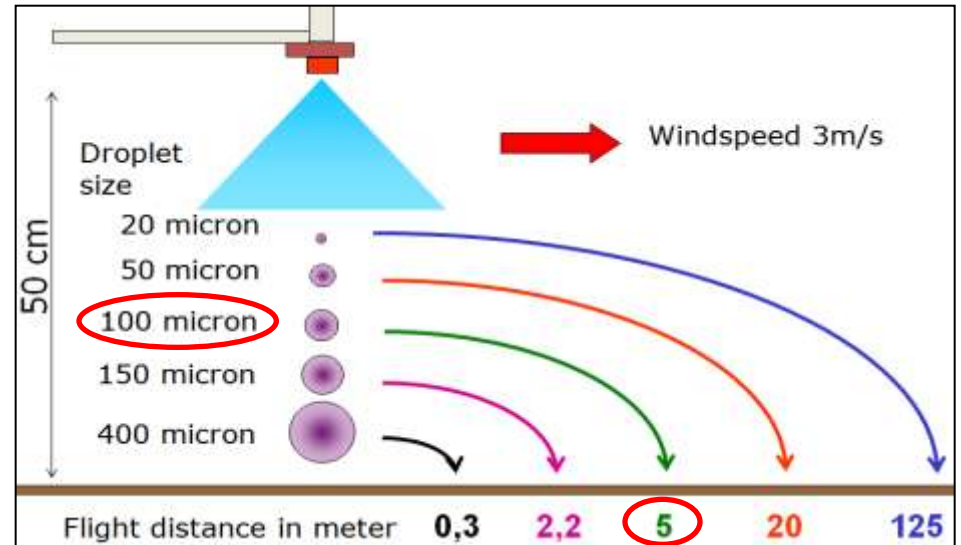
Spray drift

Critical factors

- Wind and temperature conditions
- Proximity to water / sensitive areas
- Vegetation

Mitigation priorities

1. Avoid droplets $< 100\mu$
2. Reduce distance to target
3. Adjust sprayer correctly





... what we do ?



- Transfer of developed BMPs, to SK and adapt it to local situation in consulting with local experts
- Develop training materials to be offered for use by local advisers and stakeholders
- Disseminate BMPs through information, training and demonstration to farmers, advisers and stakeholders



... what we do ?



2 Steps:

2015 – Foundation

- Adaption of BMPs to reduce Spray drift and runoff
- Develop materials for information training and demonstration
- Stakeholder survey

2016 /2017/2018 - Dissemination

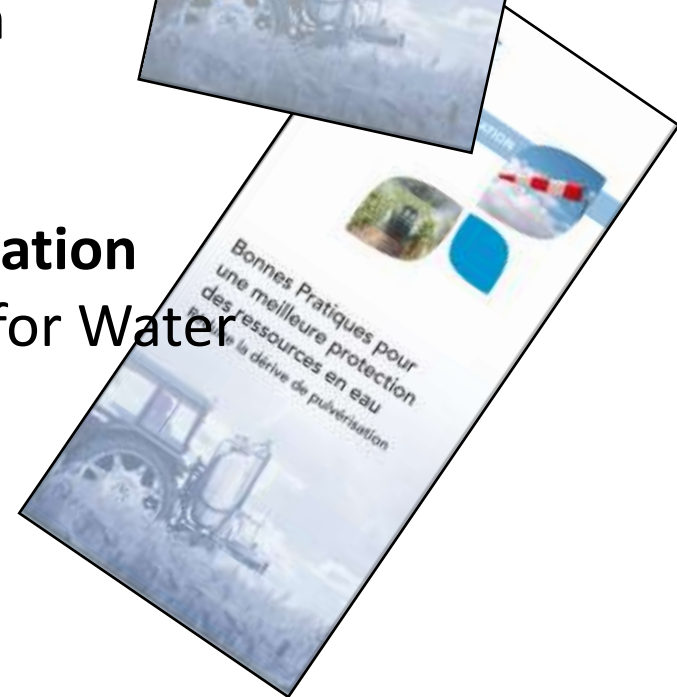
Best Management Practices for Water

Protection to Farmers

Information

Training

Demonstration





Stakeholder Perception study winter 2011 / 2012

PROBLEM: POLLUTANTS

If you consider surface water pollution originating from agriculture, what would you consider the main problem ? (**rank in order of importance** 1= most important....5 = least important (only respondents with correct ranking))

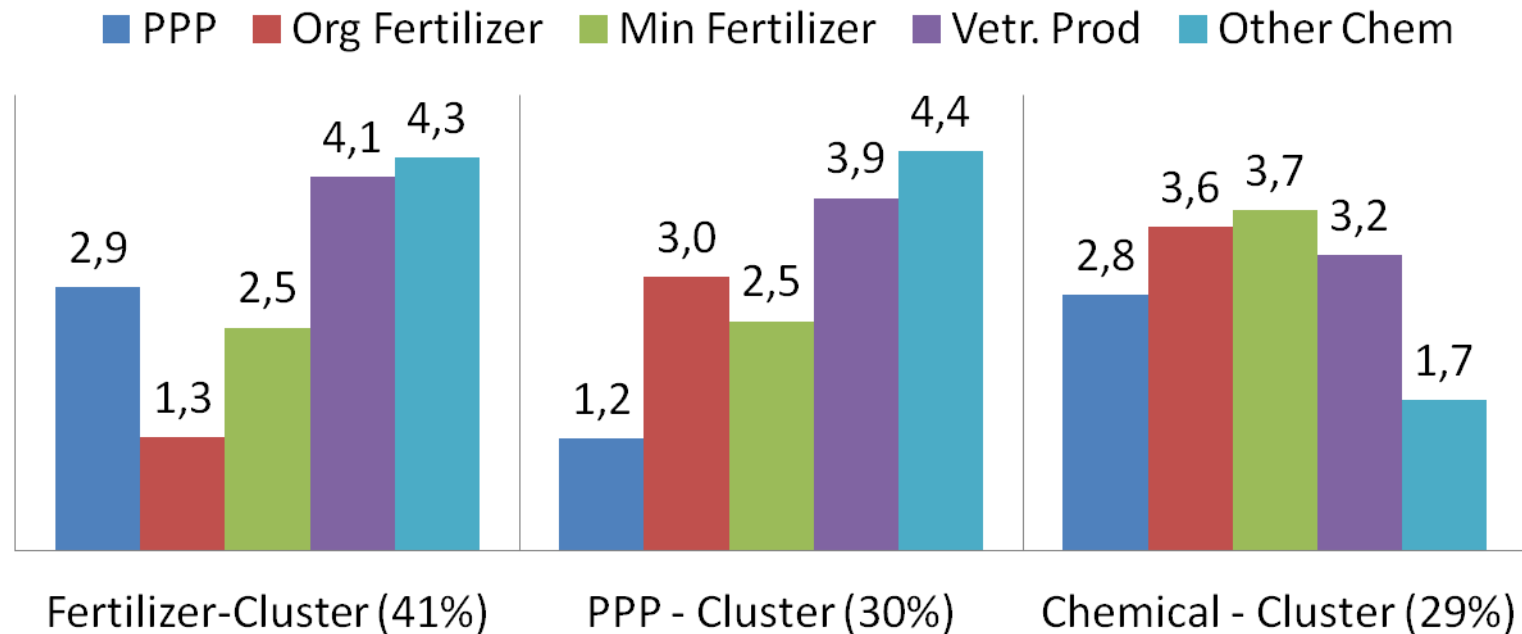
Average ranks on the main problems for surface water pollution – top three								
Country	BE	DE	DK	ES	FR	IT	PL	all
PPP	2,2	3,0	2,2	2,6	1,6	2,3	2,2	2,4
Org- Fertilizer	3,0	1,9	2,2	2,2	3,3	2,4	2,6	2,5
Min. - Fertilizer	2,8	3,1		2,4	3,0	2,7	2,3	2,8
Vetproducts			3,3			2,7		3,8
Other Chem					3,3			3,6
n	62	80	49	59	43	52	46	391

- PPP and organic fertilizer considered main water pollution problem
- Most divers perception on PPP between FR and DE

Stakeholder Perception study winter 2011 / 2012
PROBLEM PERCEPTION DIFFERS STRONGLY

Cluster analysis separates three different groups of respondents in their evaluation of main water pollutants

Average ranks in clusters (1 most important ... 5 least important)





... how we do it ?



Project will be executed by local experts in partnership with ECPA

Local partners:

- Water Research Institute, Bratislava
- Agroinstitute
- Spray drift training / demonstration: Profesional servis GmbH
- Runoff training / demonstrations: NN
- Point source training /demonstrations will be a topic in all dissemination activities
- Slovak Crop Protection Association



... why we do it



- Clean water is of great public concern and keeping water clean is seen as a key pillar for sustainable and productive agriculture at ECPA.
- PPP findings are a threat to Product registrations and result in increasing use restrictions (keep broad choice for solutions)
- With the implementation of BMPs we can strongly reduce losses of PPP to water.
- Farmer and adviser awareness on measures how to protect water is the first step to efficient water protection.

Basic TOPPS concept:

Diagnosis + Measures = BMPs

Step 1

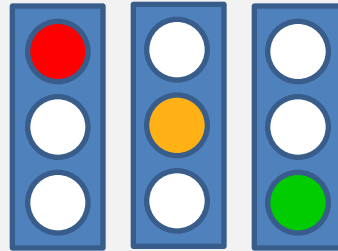
Risk diagnosis

TOPPS tools

TOPPS check lists

TOPPS – dashboards

TOPPS – drift evaluation tool



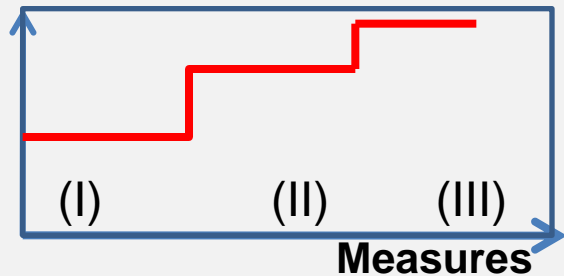
Step 2

Select effective measures

TOPPS

Mitigation measures toolbox

Mitigation
Effect %



Step 3

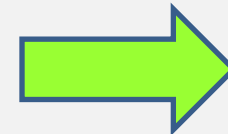
Implement BMPs

Diagnosis + Measures

from



to



..... Today he is not aware that he pollutes water !
tomorrow he will consider water protection !!!



Conclusion

PPP losses to water can be largely reduced if BMPs are implemented

- **point sources can be largely avoided**
(no external factors e.g weather interfer)
- **Spray drift can largely be reduced**
(optimized sprayers, application planning)
- **Runoff can be reduced**
(implementation of BMPs and optimized landscape management)





Thanks

For your attention

Questions ?

For more Information

www.TOPPS-life.org



... a happy TOPPS partner !

