



TOPPS Water Protection Projects: Twelve years of efforts and achievements

Dr. Volker Laabs, TOPPS Chairman, September 2017



Content

- Project background, objectives, and principles
- TOPPS history and partner network
- Achievements: Toolboxes, methodology, outreach
- Outlook and conclusion

Project Background

- Agriculture is identified as a key concern for failing to achieve good status for European water bodies (fertilizers, ***pesticides***, water abstraction)
- Low precautionary limit value applied to pesticides and relevant metabolites in drinking / groundwater (0.1 µg/L)
- Extremely ambitious targets were also set for surface water (EU and national EQS values)
- Industry freedom to operate and reputation endangered by water pollution in agriculture



Project Objectives

- Develop toolboxes of EU-wide recognized BMPs for water protection in agriculture
- Achieve widespread dissemination of BMPs* to farmers, thereby reducing pesticide contamination incidents
- Demonstrate effectiveness of multi-stakeholder, collaborative approach to water protection



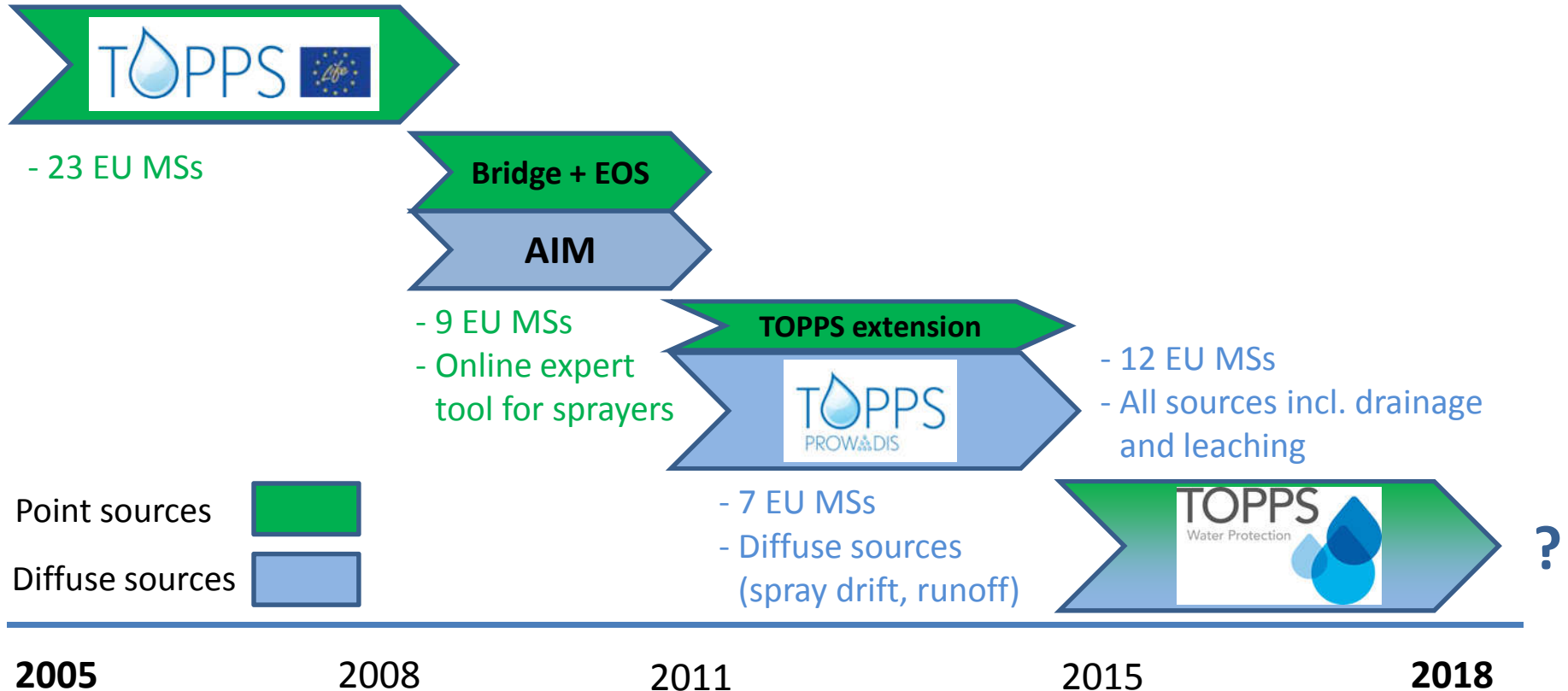
Project Principles

- Develop and disseminate EU-wide agreed BMPs and decision support tools
- Maintain & expand a strong expert partner network of academics, advisors, and industry
- Achieve a holistic water protection concept at catchment level, covering all key pollution sources & pathways
- Promote integration of BMPs into official trainings and subsidy programs



History of TOPPS Multi-stakeholder Projects for Water Protection

Train Operators to Promote best Practices & Sustainability

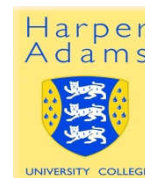


TOPPS External Partner Network

- ❑ Special technical knowledge, matched with local expertise
- ❑ Multi-skilled group, from farm advice to science
- ❑ Holistic view and practical solutions
- ❑ Neutral position facilitates uptake of BMPs in official trainings/advice



KNOWLEDGE CENTRE FOR AGRICULTURE



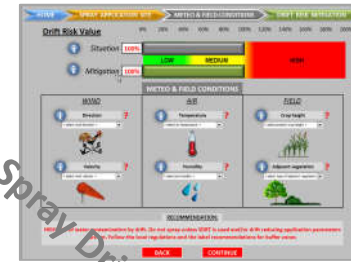
and more...

Toolbox of Training Materials

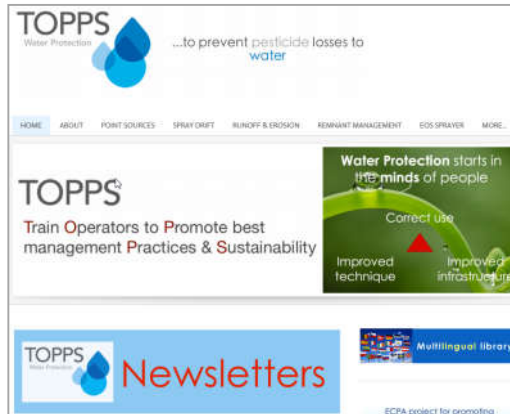
BMP Booklets for advisors



Web-based decision support tools



BMP Flyers for farmers

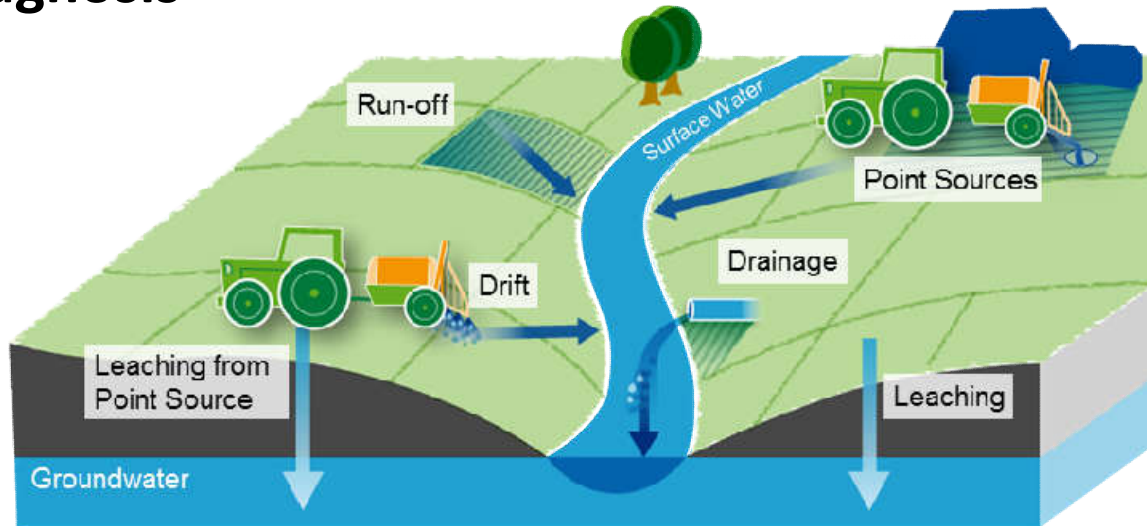
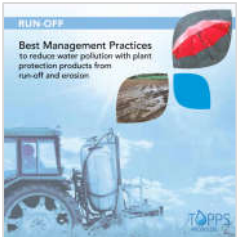


TOPPS Website: Materials & Picture Library

Methodology: Pollution Pathway Diagnosis Concept

Surface Runoff & Water Pathway Diagnosis

Point Sources



Spray Drift



Drainage

Vulnerability Diagnosis: Drainflow potential of fields with artificial subsurface drainage systems

Drainage due to low permeability soil	Big cracks ¹ occur		Clay > 95%	High risk
		Subsoiling or mowing done	Clay 25-95%	High risk
Drainage to control shallow groundwater	Big cracks do not occur in most years		Clay < 25%	Medium risk
		No subsoiling or mowing done	Clay > 95%	Medium risk
			Clay < 25%	Normal ³ risk
Drainage to control shallow groundwater	No peaty ² soil		WHC < 120 mm	High risk
		Basic risk ² do not occur in most years	WHC > 120 mm	Normal risk
	Peaty soil			Normal risk

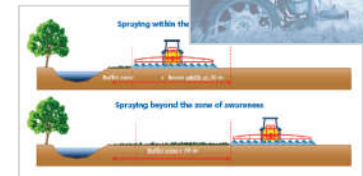
1: Cracks of ≥1 cm at the soil surface
2: Basic risk typically associated with all artificially drained fields
3: Peaty soils: Soils with ≥30% organic matter in topsoil (plough layer)

Leaching

Vulnerability Diagnosis: Leaching potential of fields

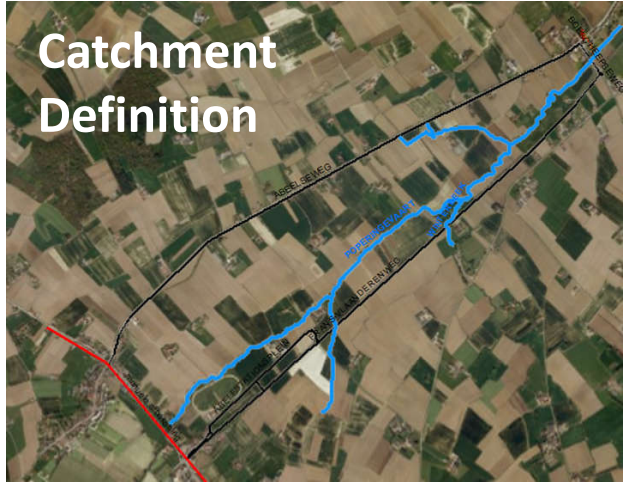
Shallow ¹ groundwater	Big cracks ² occur		WHC < 120 mm	High risk
		No big cracks occur	WHC > 120 mm	High risk
No shallow groundwater	Reactive ³ soil		WHC < 120 mm	High risk
		Non-rendzina soil	WHC > 120 mm	Low risk

1: Groundwater ≤1 m below soil surface at some time of the year
2: Cracks of ≥1 cm at the soil surface
3: Soils developed on fissured karst, with shallow (<30 cm), stone-rich (>10%) topsoils



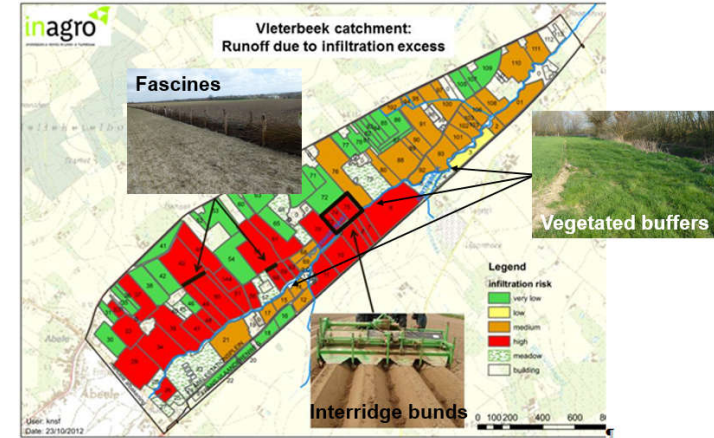
Methodology: Catchment Risk Diagnosis & Implementation Plan

Catchment Definition



Example: Run-off Risk Diagnosis (BE)

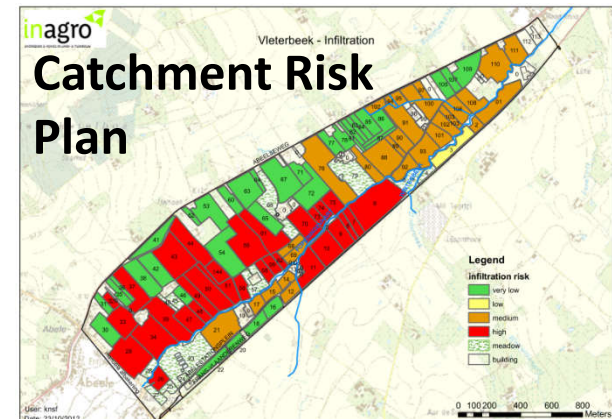
Catchment Management Plan



Farmer Meetings



Field Diagnosis



Project Outreach

- Successful BMP and training materials roll-out in overall 23 EU countries
- Integration of TOPPS materials in official trainings & NAPs (SUDir) BE, ES, GR, HU, IT, NL, PL, SK (+UK); indirectly in DE and PT
- Documented stakeholder outreach 11/2005 – 6/2017
 - Direct: **>45,000 farmers/advisors** (trainings, demos, presentations)
 - Indirect: **>550,000 stakeholders** (TV, journals, fairs)
 - Websites: Good traffic on ECPA and country (IT, PL, RO) TOPPS websites
 - Expert level: TOPPS academy training of external multipliers
- Recognition of TOPPS work at EU level (DG Env WGs Groundwater, Chemicals, WFD & Agri; EP Water IG...)



Outlook



TOPPS will continue: Next phase planned for 2019 - 2021

Highlights

- Web-based, self-diagnosis tool for integrated water protection on farms (central landing site for farmers)
- Increased push for TOPPS BMP inclusion into curricula of farmer schools/universities/academies
- Pilot catchment initiatives to demonstrate effectiveness of collaborative implementation of complete TOPPS methodology
- Continued engagement of strong partner network

Conclusions

- TOPPS concept of external partnering in MSs has resulted in
 - ownership, expertise, and recognition at country level
 - effective uptake of BMPs in official trainings
- Increased water regulation and public scrutiny will also in future require a strong multi-stakeholder commitment for water protection
- TOPPS engagement contributes long-term to a sustainable and productive EU agriculture
- BMP implementation needs to be further integrated into EU and national Ag-funding systems