



FAIRWAY

FARMERS, ADVISORS, LOCAL AND REGIONAL MANAGERS, AND EU POLICY MAKERS

For anyone involved in agricultural production, it is important to know which measures are effective at reducing pesticide losses to ground and surface waters. A range of measures exist, and it is important to use them in combination.

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FURTHER DETAILS

[Commelin, M. et al. 2018. Review of measures to decrease pesticide pollution of drinking water sources. FAIRWAY Project Deliverable 4.2, 79 pp](#)

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KEY MESSAGE

Reduction of pesticide pollution of drinking water resources demands a combination of input reduction, farm system redesign and point source mitigation.

EXPLANATION

Agriculture is a main source of pesticide pollution of the aquatic system, both groundwater and surface water. Applied pesticides can be transported to water bodies via leaching and surface runoff. The amount of loss depends on farming system, management, soil type, geomorphology, and climate.

EVIDENCE

FAIRWAY made an inventory of and compared measures to reduce pesticide pollution to surface and groundwater using: a systematic literature analysis, (including a quantitative meta-analysis for some measures when data quality allowed); and experiences from the eight [FAIRWAY case studies](#) across Europe. Measures were evaluated in terms of their effectiveness, costs, adoptability and applicability. The literature review and case study inventory complemented each other.

On-field measures (e.g. vegetative buffers, tillage practices) are effective at reducing off-site pollution, but costly to install and maintain. Such on-field measures contribute to reduced pollution for overland flow but are not sufficient to mitigate pollution. Input reduction and farm redesign (e.g. Integrated Pest Management (IPM), crop rotations) as well as point-source mitigation (e.g. safe storage and bio beds) are needed to achieve reduction of pesticide pollution to surface water. Sustained adoption of measures is a challenge in many case studies. Regional or national legislation helps to adopt measures, such as reduced inputs.



Buffer near wetland (source: MN Pollution Control Agency; CC BY-NC 2.0)