



## 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 nitrate losses to ground and surface waters. A range of effective measures do exist, but they do not all receive equal attention in the literature.

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### FURTHER DETAILS

[Oenema, O. et al. 2018. Review of measures to decrease nitrate pollution of drinking water sources. FAIRWAY Project Deliverable 4.1, 125 pp](#)

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## KEY MESSAGE

For measures to reduce nitrate losses, there is a discrepancy between the type of field- or trial-based measures tested and reported in literature and real-world farm-level management options that are used or reported in the case studies.

### EXPLANATION

In scientific literature reviews, measures reported to mitigate nitrate losses to surface and ground waters are often field- and trial-based, so that it is relatively easy to compare treatments with control plots. Examples are the use of cover crops after the growing season and application of (nitrification) inhibitors or biochar. While some of these measures are also used in practice, experiences from the [FAIRWAY case studies](#) reveal that more holistic practices targeted at source reduction or education and information of farmers are equally important. Examples are the use of integrated nutrient management tools, balanced nitrogen fertilization, and the organisation of field days. These measures are often less straightforward to test in field experiments.

### EVIDENCE

We inventoried and reviewed the scientific literature on the effectivity of various measures to reduce nitrate losses (leaching and runoff) to ground- and surface waters. The effects of various measures were distilled from existing reviews and individual field studies. Additionally, we collected experiences from ten FAIRWAY case studies, in which various measures were applied. Experts were asked about the effectivity, costs, applicability, and adoptability of the different measures.



Example of a grass cover crop sown after maize to reduce nitrate losses.