

Portuguese groundwater contamination with fungicides – The need for action



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Background

- ❖ **Climate change** will considerably affect the quality and availability of water¹;
- ❖ **Groundwater** is the main source of drinking water supplies²;
- ❖ **Use of pesticides** is one of the main contamination sources of groundwater².

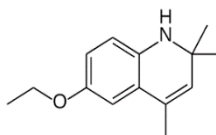
Data source

In 2018, a project intending to improve the assessment of the state of water bodies started in Portugal (POSEUR-03-2013-FC-000001).

Under the scope of this project, a specific study for the evaluation of fungicides in groundwater, incorporating **20 monitoring stations scattered in Portuguese continental territory**, was developed.

Main results - Most reported fungicides:

- ❖ Ethoxyquin (77%)
 - ❖ Rabenzazole (60%)
 - ❖ Ferimzone (54%)
- ➡ **Ethoxyquin and rabenzazole** are prohibited to be sold in Portugal due to the associated serious health effects to animals and humans.
- ➡ **Ferimzone** is also associated with toxic health effects (e.g. effects on nervous system).



Main conclusions

- ❖ **Groundwater is vulnerable to contamination by fungicides.**
- ❖ **Need to define and implement strategies to prevent and control water contamination by these compounds.**

Future Policy action

- ✓ In Europe, and in the scope of Farm to Fork Strategy under EU Green Deal, there are plans to revise the Sustainable Use of Pesticides Directive, enhance provisions on integrated pest management and promote greater use of safe alternative ways of protecting harvests from pests and diseases such as crop rotation and mechanical weeding.

References

- ✓ 1. Halonen et al. 2021. A call for urgent action to safeguard our planet and our health in line with the Helsinki declaration, Environmental Research, 193; 110600: 0013-9351. <https://doi.org/10.1016/j.envres.2020.110600>.
- ✓ 2. APA, I.P. 2018. Relatório Técnico relativo ao Projeto POSEUR-03-2013-FC-000001 - "Melhoria da avaliação do estado das massas de água", Componente "Desenvolvimento e implementação de métodos inovadores na avaliação de substâncias prioritárias, de substâncias da lista de vigilância e de compostos emergentes nas massas de água e de substâncias prioritárias no biota para a melhoria da avaliação do estado químico" – Relatório Final. Departamento de Recursos Hídricos/Divisão do Estado Qualitativo da Água, Agência Portuguesa do Ambiente, I.P., Ministério do Ambiente.