



CYANOTOXINS IN IRRIGATION WATERS:

Surveillance,
Risk Assessment,
and Innovative
Remediation
Proposals



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Aims

TOXICROP aims to cover knowledge gaps and concerns raised related with the use of raw waters contaminated with cyanobacteria and cyanotoxins in crop irrigation and established the following specific objectives:

OBJECTIVE 1

Field monitoring and assessment of cyanotoxins dispersion and transfer from eutrophic waters to soil and crops

OBJECTIVE 2

Assess the phytotoxicity of cyanotoxins in variable environmental conditions

OBJECTIVE 3

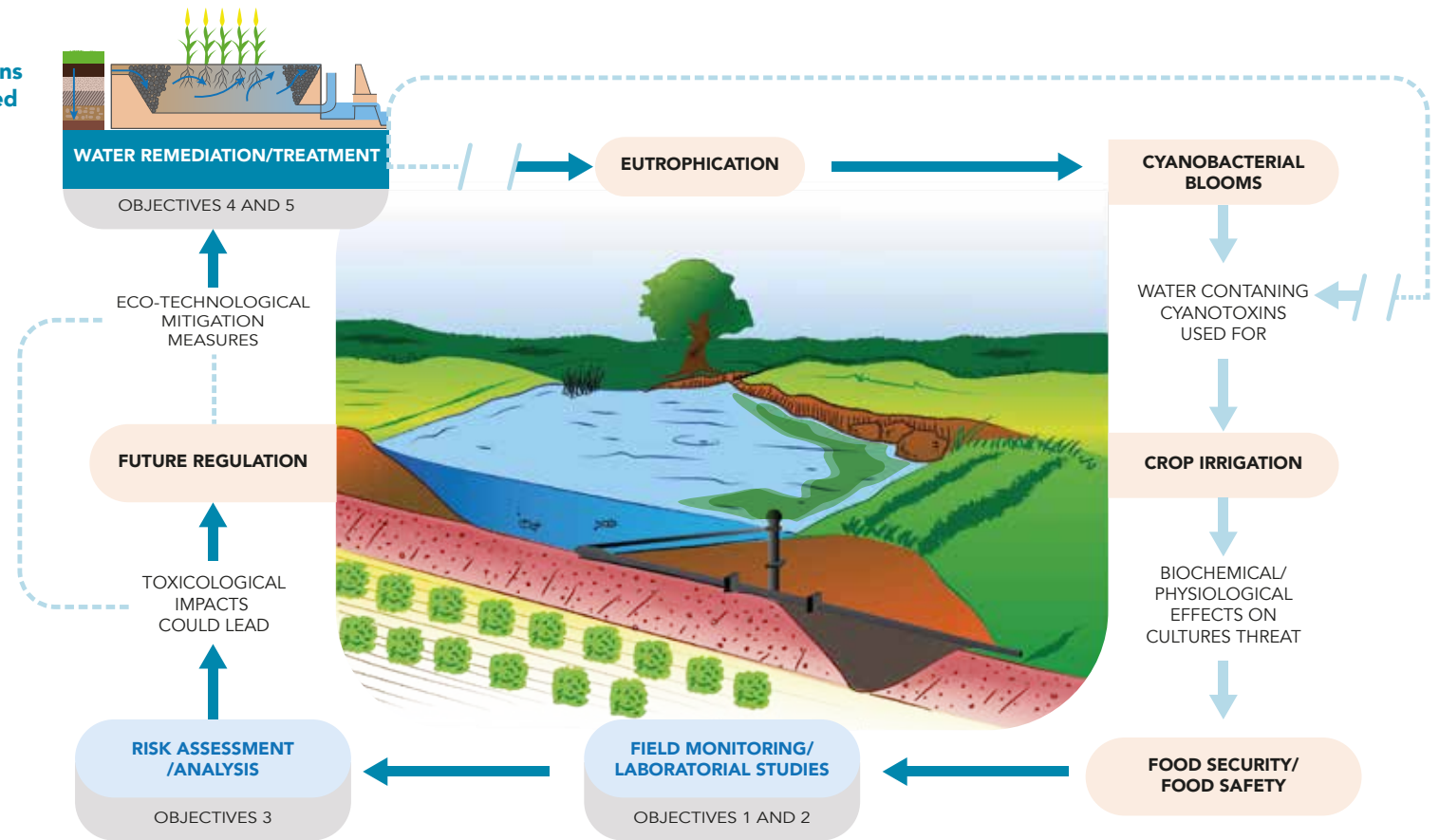
Risk assessment of eutrophic irrigation waters, addressing in particular the impacts on crop performance/yield and crop contamination

OBJECTIVE 4

Assessment of the efficiency of CW¹ and MSL² experimental models for cleaning biomasses of cyanobacteria and cyanotoxins in contaminated waters

OBJECTIVE 5

Refining the design, performance and operation of CWs and MSL models, for specific treatment of raw waters contaminated with toxic cyanobacteria blooms



Work Packages

- WP1** (Ethics requirements)
- WP2** (Management and coordination)
- WP3** (Risk assessment of eutrophic waters in agriculture – field monitoring studies)
- WP4** (Risk assessment of eutrophic waters in agriculture - experimental ecotoxicology studies)
- WP5** (Cyanotoxin identification and quantification and development of new tools for toxin analysis)
- WP6** (Eco-technologies for water treatment)
- WP7** (Dissemination and communication)

¹CW - Constructed Wetlands

²MSL - Multi-soil-layering

Impact

1. TOXICROP will generate ideas and will initiate new lines of research and innovation devoted to biotechnological applications of cyanobacteria in agriculture, water treatment technologies and toxin analysis and monitoring.
2. Fundamental knowledge production in the fields of environmental risk assessment, risk assessment, environmental monitoring, crop protection, food safety and water treatment technologies.
3. The results and conclusions of this Project should lead to guidelines concerning the limits of cyanotoxins in irrigation waters, and guidelines for water management and farming.
4. Production of scientific applicable knowledge about cyanotoxins in irrigation waters