

Phytoremediation response of *Arundo donax* L. to Zn/Cu contaminated waters

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Objectives

- Studying the potential for phytoremediation of waters contaminated with Zn / Cu with *Arundo donax* L.
- Evaluate the influence of different parallel water availabilities and what are the interactions between water contamination and water stress in the phytoremediation process.
- Evaluate the productivity and quality of the biomass.
- Assess soil and percolates quality throughout the process.



Methodology

- Rhizomes of *Arundo donax* L. were placed in pots irrigated with water contaminated with zinc (10 and 20 mg L⁻¹) and copper (1 and 2 mg L⁻¹)
- In parallel it was tested three types of irrigation (30%, 60% and 120% of field capacity) in a two year's experiment
- Physical-chemical parameters are analyzed in water used for irrigation, in water percolated from the soil and in the soil.
- Biometric parameters of the biomass of *Arundo donax* L, the productivity and the biomass quality are also evaluated



Expected Results

- It is expected that the energy crop *Arundo donax* L. is able to merge high levels of decontamination of water at high and low inputs of irrigation with high yields
- Biomass can be used for the production of fiber, byproducts and bioenergy.

