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Cleaning Water from Erythromycin by Means of Waste Biomass

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INTRODUCTION

Industrial, agricultural, local waste result in pollution of surface waters[1, 2]

Scientific community ➡ modern treatment methods

Erythromycin

- Antibiotic for therapeutic use (predominanlty)
- Persistent in wastewaters compound[3-5]

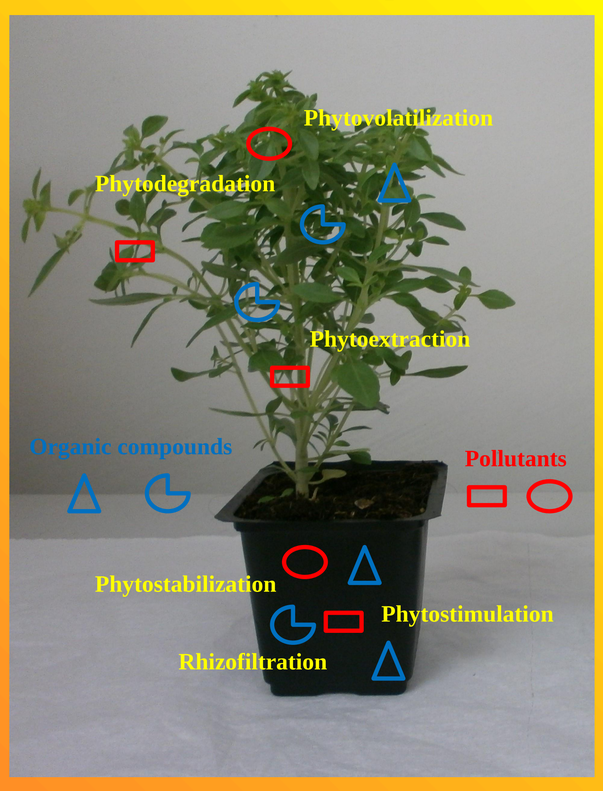
Target ➡ *removal-degradation of erythromycin*

Phytoremediation:

Plants + Associated microorganisms

⬇ *Clean up*

Soil, water, atmosphere[5]



KEY ISSUE

EXPERIMENTAL CONDITIONS AND ARRANGEMENT

or

or

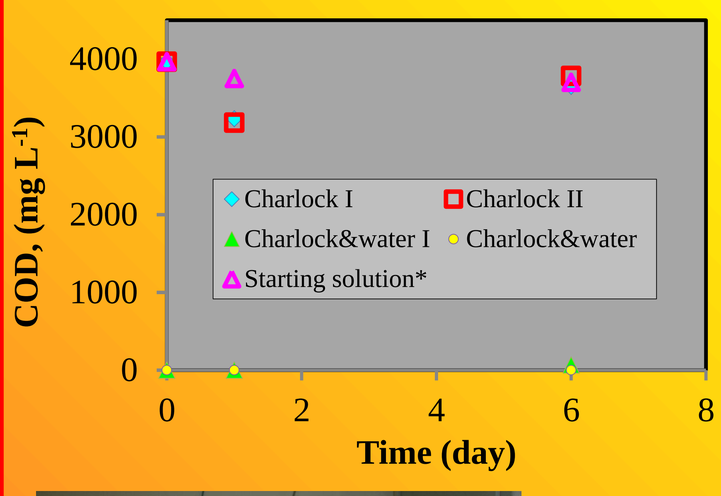
or...

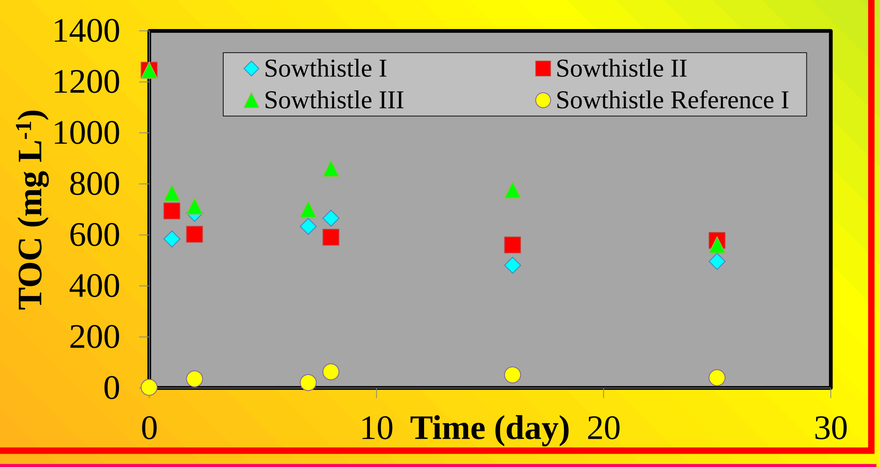
RESULTS

Table 1. Typical species used for erythromycin removal from surrogate wastewaters

Species	Treatment *(days)*	Number of stems	Length of stems, *cm*	Stem kind*	$V_{initial}$ *ml*	ΔV_{ave}, *ml*
Willow Salix sp	18	2	45	NLV	400 /TW	240±10
Orange tree *Citrus* sp	18	2	45	NLV	400 /TW	250±3
Sowthistle *Sonchus* sp.	25	4	19	LVT	100/ TW	18±1
Bamboo *Fargesia* sp.	14	4	30	LVT	700 / UP	20±5
Charlock *Sinapis* sp.	6	20		LV	175/ TW	20±10

***LV: With leaves, NLV:without leaves, LVT: leaves on the top (out of the solution) only**





SUMMARY

- Significant absorbance of aqueous solutions
- First day: Substantial reduction of the concentration of of erythromycin with the excipients
- Phytoremediation is a simple and effective process. Removal of erythromycin (with excipients): Successful
- Further studies required

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